DOCUMENT RESUME

ED 116 069 CG 010 238

AUTHOR Greever, Kathryn B.; And Others
TITLE Follow-up Study of Rehabilitation Clients: A Step-By-Step Guide.
INSTITUTION Research and Training Center, Institute, W. Va.
SPONS AGENCY Social and Rehabilitation Service (DHEW), Washington, D.C.
PUB DATE 74
NOTE 99p.

EDRS PRICE MF-$0.76 HC-$4.43 Plus Postage
DESCRIPTORS Data Analysis; Followup Studies; *Guidelines; *Program Evaluation; *Questionnaires; Research Design; *Research Tools; *Vocational Rehabilitation

ABSTRACT

This manual is designed to aid the user in measuring consumer satisfaction with vocational rehabilitation services. The manual contains materials which were used by the West Virginia Research and Training Center in a followup study. Step-by-step guidelines are provided for assessing the effectiveness of vocational rehabilitation services by surveying clients and their employers. Topics covered are: planning and conducting the study, preparing survey forms, analyzing data and writing research reports. Included in the appendices are employee and employer questionnaires, articles on sampling and standard deviation, and an example of a completed research report. Since there are many aspects of followup studies which are not covered here, manual users can use the materials as a guide to construct their own questionnaires. The manual is geared for those having little or no experience in conducting followup research. (Author/SJL)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED116069

FOLLOW-UP STUDY OF REHABILITATION CLIENTS

a step-by-step guide

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CE 010 238

2

RESEARCH AND TRAINING CENTER

WEST VIRGINIA REHABILITATION CENTER, INSTITUTE, WEST VIRGINIA
808 FORESTRY TOWER, WEST VIRGINIA UNIVERSITY, MORGANTOWN, WEST VIRGINIA

FOLLOW-UP STUDY OF REHABILITATION CLIENTS

A STEP-BY-STEP GUIDE

Kathryn B. Greever, Ed. D.
Elizabeth B. Minton, M.S.W.
M. S. Tseng, Ed. D.

West Virginia Research and Training Center
Institute, West Virginia
1974

This publication was supported in part by Research and Training Center Grant RT-15 from the Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D. C., to West Virginia University and the West Virginia Division of Vocational Rehabilitation. The material may be quoted or reprinted without formality other than the customary acknowledgment of the R & T Center.

FOREWORD

Is vocational rehabilitation doing any good? What good occurred as a result of vocational rehabilitation services? What would have happened if no vocational rehabilitation services were provided? Measurement of the effectiveness of vocational rehabilitation services should provide answers to these three questions. This manual will not tell you how to secure the answers to these three questions. It will, however, assist you in making an appropriate first step by measuring consumer satisfaction with vocational rehabilitation services. A word of caution: While the presence of negative consumer attitudes toward vocational rehabilitation services can be considered significant, the absence of negative findings does not in and of itself constitute evidence that vocational rehabilitation services had a positive effect.

When we talk about measuring consumer satisfaction, obviously we are talking about the client who has received services from the state vocational rehabilitation agency. But is the client the only consumer? What about the client's employer? Is he not also a consumer? Doesn't the employer "consume" and pay for the services of the client? The extent to which an employer is satisfied with an individual's job performance is an indication of that individual's ability to be productive and self-sufficient. So even though it is the client who receives vocational rehabilitation services, both the client and his employer are affected by these services. Broadly speaking then, both are consumers.

This manual contains materials which were used by the West Virginia Research and Training Center in a follow-up study. It will provide you with a basic guide to a first step in assessing the effectiveness of VR services through a follow-up study of both the client and his employer. Since there are many aspects of follow up which are not covered here, manual users should (1) add items to answer their specific needs, (2) use the materials as a guide to construct their own questionnaire, or (3) omit items which are not pertinent to their surveys.

The information in this manual is geared for those who have had little or no experience in conducting a follow-up study. Sections I, II and III contain two questionnaires and provide guidelines for their use. Section V is a guide for recording the data. Experienced evaluators can simply refer to Section II and Appendices A, B and C.

SECTION I

Planning and Conducting Your Study

A. Design of the Study

Thorough planning for your study is one of the most important steps in the whole process. You must take time at the beginning to think through just exactly what it is you want to do and why. It involves making decisions about why you want to do a study, who you want to study, and what you want to learn from them. Some of the questions you must answer are:

1. What are the goals of the study? In other words, why are you planning to do a follow-up study and what do you plan to do with the findings of your study? In most instances the reason for doing the study is to bring about changes in your agency program in order to provide better services to your client. If program change is one of the goals of your study, it would be a wise move to involve in the development of the study those groups who might become targets of the change, e.g., rehabilitation counselors, district supervisors, clients.

2. Who do you want to study? There are several options open to you in this area. You may want to look at all closed cases during a particular time period, that is, closed in Statuses 08, 26, 28 and 30. Or you may decide that you just want to look at one or two of the closure statuses. If, for instance, you decide to look at all clients closed in Statuses 08 and 26, this provides you the opportunity of looking for similarities and differences between the two groups of clients. The same would hold true for examining cases closed in Statuses 28 and 30, compared to Status 26. The follow-up study that was conducted by the West Virginia Research and Training Center involved only clients who had been closed in Status 26. It is our recommendation, however, that you examine a wider spectrum of clients from your own agency.

3. What time period should I use for selecting clients? You could of course select any time period which seems appropriate for your purposes. We would suggest that you use cases that have been closed at least one year in order to get some measure of the lasting impact of vocational rehabilitation services on the client. You could decide for instance that you wanted to look at all cases closed during the preceeding fiscal year, all cases closed during a six month or even a three month period.

4. Do I need to sample? Whether or not you need to sample depends upon the group you have decided to study. If the number of clients involved is not too extensive, you may want to survey all the clients. For example, if you are looking at all the clients closed 26 during a three month period, you may wish to look at every case. However, if you are looking at all the clients closed during the fiscal year, the number may be so large that you would want to sample. The amount of time that you have available in which to conduct the study and the amount of resources, i.e., staff and money, would also play a part in your decision to sample or to look at every case in the study.

5. How shall I collect my data? The two most common methods of collecting information of this type are through the use of mailed questionnaires and by interviews. Here again the amount of staff and money that you have available to you will determine whether or not you would use the mail or interview route. The use of mailed questionnaires is the most inexpensive method of data collection, but is not always the most effective. Normally with rehabilitation clients the percentage of return on mailed questionnaires is quite low. Interviewing is a much more expensive technique, but if this is your first follow-up study you might want to consider doing so. It might be possible for you to use students or case aides to do the interviewing which would considerably reduce the expense to the agency.

If you have decided that you are going to sample from your total population, then move on to the next section on sample selection. If you have decided that you are going to try to study each case, then skip Section B and move to Section C - Gathering the Information.

B. Sample Selection

You have decided to sample and you know what your population is, that is, what statuses you are going to look at during what time period. You now must decide on the type of sampling that you want to do. For those of you who are unfamiliar with sampling techniques, refer to Appendix D for information on sampling procedures. On the basis of this information you will probably be either selecting your cases by random sampling techniques or through the use of stratified random sampling. For either type of sampling, the first step that you must take is to collect the names of all the clients who were closed in the appropriate statuses during the selected time period. Then assign each a number and proceed to select your sample in accordance with the directions in Appendix D.

Now that you have the names of those persons that you are going to seek information from, you are ready to proceed to gather your information.

C. Gathering the Information

If you are going to use mailed questionnaires, a copy of the employee questionnaire should be mailed to all former VR clients who are to be surveyed. The employer questionnaire can be mailed to their employers once you receive the client's questionnaire back indicating that they are employed and where. For best results, a stamped, self-addressed envelope should be included. This way former clients and employers need only complete the forms and place them in the return envelopes. The number of questionnaires returned will vary. If the clients are nearby, a phone call to non-respondents would help.

One method of increasing the number of forms returned is to send the client a letter saying that they will receive some reward, say $1.00, when the form is returned. However, if you cannot pay the client send the form any way. Your rate of return on the questionnaires may be small, i.e., 30 - 40%. But a small return is better than none. Remember that if your return is less than 70 to 80% your results will be somewhat limited. You will not be able to determine the characteristics of those former clients who did not return the form. But a limited follow-up study is better than none and should provide you with good indications of consumer satisfaction.

In our study we found that employers were more likely to respond using the mailed questionnaire than were former clients. For cases closed in Status 26 you could use the employer's questionnaire even if you did not get a response from the client. It would be interesting to compare employer responses for clients who responded to the questionnaire compared to clients who did not respond. You might feel that employer responses regarding those clients who did not return their form would be less positive than employer responses regarding those clients who did return their forms.

As indicated previously, in studies where interviews would be used for collecting the data, consideration should be given to students or case aides for data collection. All interviewers should be trained in the use of the questionnaire. If you do not have someone on your staff who has had experience in this area you probably can locate someone in your community who would be willing to give a brief training course in interviewing techniques.

The primary problem that is faced in gathering information is locating the former clients. This is a problem in any type of a research study where you are trying to locate people. Here is one area where the use of interviewers for the study pays off because they can spend more time tracking down clients who have moved, while mailed questionnaires will simply be returned by the post office. Locating clients will require diligent perseverance in tracking down leads and the rehabilitation counselor who served the client originally could be quite helpful in providing leads as to possible whereabouts of missing clients. If you are creative you will be successful in locating most of the clients in your study.

SECTION II

Survey Forms

There are two forms: one for the former VR client (see Appendix A) and one for his employer (see Appendix B). For those individuals interested in the technical aspects of questionnaire construction, this information is presented in Appendix C.

A. Employee Questionnaire

This form (Appendix A) is to be completed by the former VR client. It contains a small "Personal Data" section and 42 items. The 42 items cover various factors relating to employment. If the client is unemployed, he would complete the first three questions only.

Table A, below, gives the factor (variable) in the first column and references the applicable part of the questionnaire in the second column. For example, the employment factor of "work proficiency" is tapped by Items 27-32 on the form.

Table A

Factors Tapped by Employee Questionnaire

Factor	Employee Questionnaire
Age	Personal data section
Marital Status	Personal data section
Number of dependents	Personal data section
Educational Level	Personal data section
Employment Status	Item 1
Satisfaction with VR Services	Items 2 - 3
Job title	Item 4
VR Services in relation to present job	Items 5 - 7
Length of time holding present job	Item 8
Hours of work per week	Item 9
Enjoyment derived from present job	Item 10
Means of getting a job	Item 11
Job satisfaction	Items 12 - 15 (Hoppock JS Blank)
Work personality	Items 16 - 26 (Tseng PQ Scale)
Work proficiency	Items 27 - 32 (Tseng JP Scale)
Self-acceptance	Items 33 - 35 (Semantic Differential Scale)
Attitude toward work	Items 36 - 38 (Semantic Differential Scale)
Employment status of spouse	Items 39 - 41
Agreement with spouse on family affairs	Item 42

B. Employer Questionnaire

This form (Appendix B) is to be completed by employers of former VR clients. There are 21 items relating to employment. Table B, below, gives the employment factor in the first column and relates it to the applicable part of the questionnaire in the second column. All items on the Employer Questionnaire are either similar or identical to some of the items on the Employee Questionnaire. This makes it possible to compare what the former client says to what the employer says.

Table B

Factors Tapped by Employer Questionnaire

Factor	Employer Questionnaire
Client's job title	Item 1
Hours of client's work per week	Item 2
Client's work personality	Items 3 - 13 (Tseng Scale)
Client's work proficiency	Items 14 - 19 (Tseng Scale)
Client's overall performance	Item 20
Importance of VR services on client's performance	Item 21

C. Modification of the Forms

Read over the items on the questionnaires and compare them with the factors given in Table A. List any additional factors or items you may wish to include in your study as well as any item you might want to delete from our questionnaire because you feel it is not appropriate for your study. We have listed in Appendix E several items you may wish to consider adding to this questionnaire. These items deal primarily with relationships between family members. Other items you might wish to include could be concerning the client's work history since closure, his current earnings level, and more information about his reaction to the rehabilitation counselor and the rehabilitation process itself.

Appendix F contains a form that was used by the West Virginia Research and Training Center in a follow-up study of rehabilitation center clients. This form is included simply to give you an example of a shorter, simpler form that could be used to conduct a follow-up study.

If you have decided to include additional items on the questionnaire, these results can be added to one of the suggested tables in Section III of this manual, or you may analyze these items separately in one or more tables as appropriate. If you do modify the form by adding or deleting items, remember that the technical aspects of the questionnaire construction as reported in Appendix C would no longer be valid for any identified scales and subscales you decide to modify.

SECTION III

Analyzing Your Data

Compiling Your Data

There are two ways you can compile your data: one is for computer analyses and the other is for hand or machine calculations. Tables 1 - 11 plus Figure 1 presented later in this section, will give you a good follow-up study and can be completed by hand calculations. Tables 12 and 13 require more complex analyses. Although they can be hand calculated, we recommend that they be done on the computer or omitted. Their inclusion in your study would lend considerable sophistication to your findings. However, if these analyses are unfamiliar to you, simply omit them.

A. Computer Analyses

If you are planning to analyze your data using a computer, you will have to code the data so they can be placed on computer cards or tapes. A sample spread sheet for coding data is shown in Appendix G. If you are not familiar with this procedure, show your computer programmer your questionnaires and ask him to set up your spread sheets for proper coding. Be sure to tell him what analyses you will want. For example, in Tables 1 - 11 which follow, you would want: (1) totals, (2) frequencies, (3) averages, (4) percents and (5) standard deviations. To complete Tables 12 and 13, you would want correlational analyses. For Figure 1, you may want to code the data so it can be analyzed by t-test or analysis of variance.

B. Hand Calculations

If you are hand computing the data, refer to Appendix H. We have provided sample forms and instructions which you can use as a guide in compiling your information. We recommend doing only Tables 1 - 11 when using hand calculations. If you wish to compute the standard deviation for Tables 8 - 11, refer to Appendix I. Record the data for employee responses and employer responses on different sets of data collection sheets. After recording and summarizing your data, refer to Section IV, "Writing Your Report", for a suggested reporting format.

Summarizing Your Data

You are now ready to summarize your data through the use of tables. This will enable you to better understand the meaning of the information collected. In the next section, "Writing Your Report", we suggest one way in which you might explain the data in your tables.

A. Population and Sample

In order to know what proportion of your population responded to your questionnaire, you should summarize the information. Table 1 below provides a suggested breakdown.

Table 1

Questionnaire Response by Former Clients and Employers

Category	Total		Closed 26		Closed 08, 28, 30	
	No.	%	No.	%	No.	%
Former Clients						
Total Population						
Total Sample						
Responses						
Unable to locate						
Deceased						
No Response						
Employers						
Total Contacted						
Responses						
No Response						

B. Client Characteristics

The first information you would probably be most interested in is the employment status of the client. Table 2 summarizes the data from Item 1 of the Employee Questionnaire. (Use the appropriate column headings for your study.)

Table 2

Employment Status of Former Clients

Category	Total		Closed 26		Closed 08, 28, 30	
	No.	%	No.	%	No.	%
Unemployed						
Training or Schooling						
Self-employed						
Employed part-time						
Employed full-time						
Total						

Four other interesting pieces of information can be obtained very easily. They are age, education, marital status and number of dependents of your former clients. This information is in the personal data section of the Employee Questionnaire. You can summarize the data in a table similar to Table 3A in order to compare employed and unemployed clients by closure status to see if there are differences between the groups. You might want to exclude those former clients who are currently in training or school from this table or include them as a separate group.

Table 3A

Characteristics of Former Clients by

Closure Status by Current Employment Status

	Closed 26				Closed 08, 28, 30			
	Employed		Unemployed		Employed		Unemployed	
Category	No.	%	No.	%	No.	%	No.	%
Age								
15 - 19								
20 - 29								
30 - 39								
40 - 49								
50 - 59								
60 and over								
Total								
Marital Status								
Single								
Married								
Other								
Total								
No. of Dependents								
None								
One								
Two								
Three								
Four or more								
Total								
Education								
Grades 1 - 6								
Grades 7 - 9								
Grades 10 - 11								
Grade 12								
Over 12 years								
Total								

You could of course have four separate tables for this information or you could prepare summary tables for employed and unemployed clients by closure status, similar to Table 3B. Our example is for employed clients.

Table 3B

Characteristics of Employed Clients

Factor	Closed 26		Closed 08, 28, 30	
	No. Clients	Avg.	No. Clients	Avg.
Age				
Education				
No. of Dependents				

C. Client's View of VR Services

Vocational rehabilitation personnel are always interested in finding out how the client views the services he received. Item 2 is designed to answer this question. (Item 3 also has bearing on this issue for if the client was not satisfied with services received, he probably would not want to return for additional help.) We feel, however, that Item 2 deserves its own table (Table 4) and will deal with Item 3 in the next section.

Table 4

Client Rating of Vocational Rehabilitation Services

by Closure Status by Current Employment Status

	Closed 26				Closed 08, 28, 30			
	Employed		Unemployed		Employed		Unemployed	
Rating	No.	%	No.	%	No.	%	No.	%
Very poor								
Poor								
Uncertain								
Good								
Very good								
No Response								
Total								

For employed clients, Items 5, 6 and 7 indicate how much the clients feel that VR services assisted them in preparation for employment. Table 5 is one way at looking at this information.

Table 5

Employed Clients Feedback on VR Services
(in percent)

Question	Total		Closed 26		Closed 08, 28, 30	
	Yes	No	Yes	No	Yes	No
Did VR training prepare you for your job? (Item 5)						
Were you able to do this type of work (present job) before you contacted VR? (Item 6)						
Did VR counselors assist you in finding your job? (Item 7)						
Do you need additional service from the VR counselor? (Item 3)						

For purposes of this table, the responses to Item 6 are to be interpreted as follows: "able to do this work" and "limited ability to do this work" counts as "yes"; "not able to do this work" would be counted as "no".

D. Employers of VR Clients and Client Occupations

You can find out what kinds of businesses are hiring former VR cleints by tallying the information provided on the Employee Questionnaire in Item 1 (Name of Firm). We are providing you with an example (Table 6) which shows businesses that turned up in a Research and Training Center survey. This example should help you set up your own chart, which will use different businesses depending on where your clients are employed.

Table 6

Employers of VR Clients

Business	No. of Clients Employed	Business	No. of Clients Employed
Automobile body shop		High School	
Automobile dealer		Hospital and clinic	
Automotive springs and service		Homeowner	
Bank		Hotel	
Beauty salon		Industrial supplies	
Can manufacturing		Lumber company	
Church		Metal products	
Coal mining		Nursing home	
Coffee shop		Optical company	
College dormitory		Power plant	
Community action assoc.		Realty company	
Construction materials		Restaurant	
County Board of Ed.		Retail store	
Delivery company		Sheltered workshop	
Gas station		State Department of Employment Sec.	
Glass factory		State Dept. of Highways	
Grade school		State Police	
Grocery store		Transportation (bus) Co.	
Heating company		TOTAL	

Another piece of information which should be useful is the type of job that the VR client is employed in. We suggest a table that shows the occupations of the employed clients who returned their questionnaires. This information can be obtained from two sources. The first source is on the Employee's Questionnaire, Item 4. The second source (which can serve as a cross check) is on the Employer's Questionnaire, Item 1. A sample chart (Table 7) is shown below using occupations found by the R & T Center in one of its surveys.

Table 7

Current Occupations of Former VR Clients

Occupation	N	Occupation	N
Automobile body repairman		Kitchen helper	
Automobile lot boy		Laborer	
Auto mechanic		Loan officer	
Babysitter		Mine foreman	
Beautician		Office helper	
Box boy		Office supervisor	
Clerk - hotel		Packer	
Clerk - office		Practical nurse	
Clerk - stock		Realtor	
Community action aide		Seamstress/Tailor	
Computer operator		Secretary	
Cook		Service station attendant	
Custodian		Shoe machine operator	
Damage appraiser		Social worker	
Driver - bus		Stenographer	
Driver - truck		Teacher - public school	
Furnace installer		Waitress	
Heavy equipment operator		Welder	
Hospital (or nurse) aide		TOTAL	

Items 8 and 9 on the Employee Questionnaire relate to how long the former client has been working and the number of hours worked per week. These two items can be handled in a table format similar to Table 2.

E. Employer and Client Ratings of Client Work Personality and Proficiency Attributes

The client's Work Personality is covered by Items 16 - 26 on the Employee Questionnaire and Items 3 - 13 on the Employer Questionnaire. The results for each of the 11 attributes can be counted and averaged. Then a composite score for all 11 attributes can be computed by simply adding the averages for the 11 attributes. This can be done for both client and employer responses in one table for comparison. (See the first part of Table 8).

The client's Proficiency attributes are covered by 6 items (Items 27 - 32 on Employee Questionnaire and Items 14 - 19 on Employer Questionnaire). These Work Proficiency characteristics can be counted and averaged, and then a composite score for all 6 attributes can be computed as for the work personality items. (See bottom part of Table 8 below). Finally, a composite of Work Personality and Proficiency can be computed by adding the composite score for Work Personality and the composite score for Work Proficiency.

Item 20 on the Employer's form covers overall performance.

For those individuals using a computer, our table also includes space for the standard deviation (SD). If averages are hand computed, this can be omitted. If you wish to hand compute the SD, see Appendix I.

Table 8

Employer and Client Ratings of the Clients' Work Personality and Proficiency Attributes

	Employers			Clients		
Attributes*	Avg.	SD	No.**	Avg.	SD	No.
Ability to work with others						
Punctuality						
Cooperativeness						
Self-reliance						
Appearance						
Courtesy						
Motivation						
Reliability						
Work tolerance						
Initiative						
Attitude						
Work personality composite score						
Job knowledge						
Job skill						
Quality of work						
Care of equipment						
Safety practices						
Following shop rules						
Work proficiency composite score						
Work personality and proficiency composite score						
Overall performance						

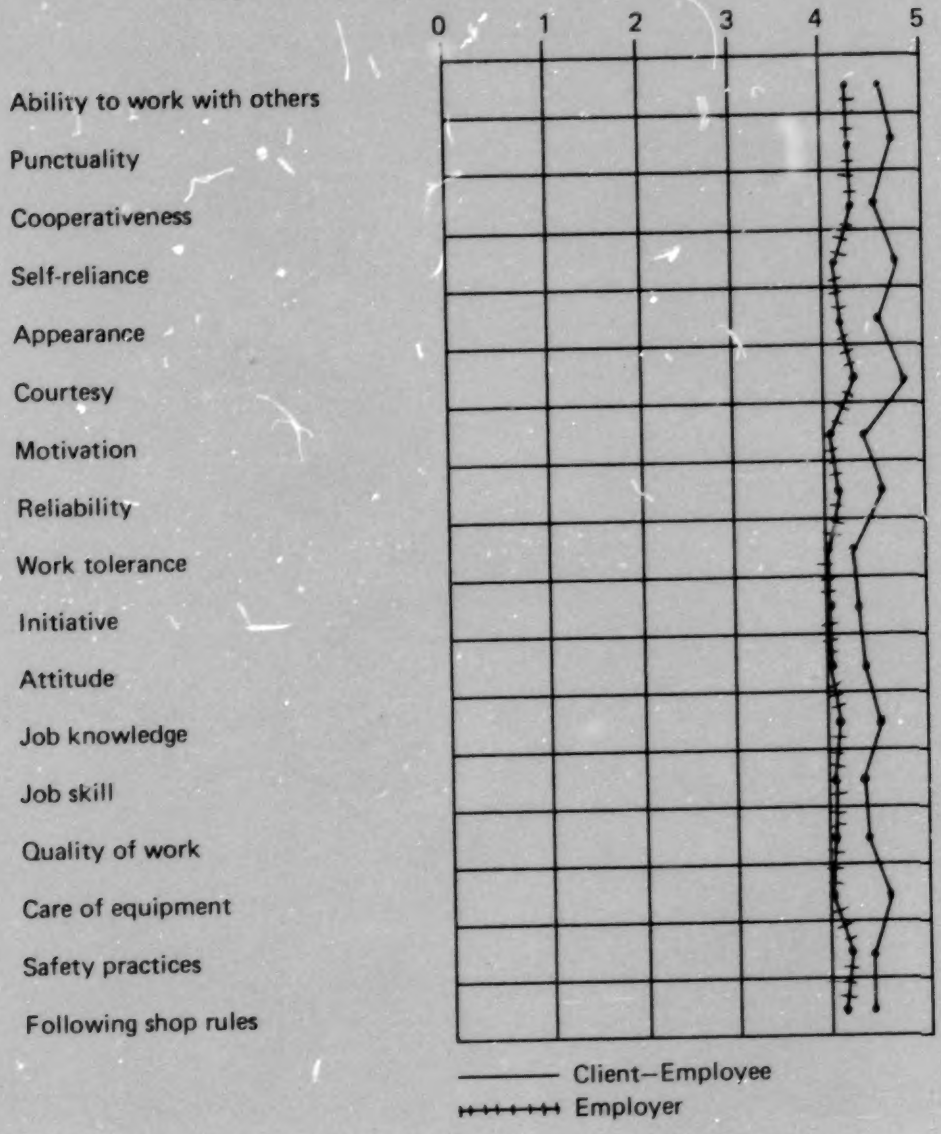
* Items 16-32 consecutively on Employee form, Items 3-19 consecutive on Employer.

** Number of responses may vary since some respondents do not complete all items.

Another means of comparison is to graph the averages for the clients' self-ratings as opposed to their employers' ratings. This can be done by using the averages from Table 8 if all the client forms have a matching employer form. If not, then it will be necessary to retabulate the averages using only those cases where both the client and the employer forms are available. We are including this graph as Figure 1, with actual data obtained from an R & T survey to show you what this chart might look like.

Figure 1

Comparison of Employer and Employee Ratings



Note: t-tests can be computed to see if there is a significant difference between employee and employer averages for each item.

F. Job Satisfaction

Another factor that is of interest to VR personnel is the extent to which clients are satisfied in their jobs. Items 12 - 15 on the Employee Questionnaire deal with this issue. The average score of clients' job satisfaction on each of the 4 items can be computed, and then a composite job satisfaction score can be secured by adding. We suggest a table similar to Table 9 below.

Table 9

Job Satisfaction

Item No.	Average	SD	No.
Item 12 (like job)			
Item 13 (satisfied with job)			
Item 14 (changing jobs)			
Item 15 (comparing job satisfaction with other people)			
TOTAL SCALE			

As in Table 8, we have noted a column for Standard Deviation (SD) for those who wish to have this information. You can refer to Appendix I for uses and computational method for the SD.

G. Self-Acceptance

Items 33 - 35 of the Employee Questionnaire deal with the degree to which a client is self-accepting, using a 7-point scale. We recommend that this data be summarized in a manner similar to that shown below in Table 10.

Table 10

Self-Acceptance of Clients

Scale	Average	SD	No.
Sad - happy			
Dissatisfied - satisfied			
Pessimistic - optimistic			
TOTAL SCALE			

H. Attitude Toward Work

A client's attitude toward work can indicate the degree to which he is successful on the job. Items 36 - 38 on the Employee Questionnaire tap this factor. A simple apprcach to presenting these data is shown in Table 11.

Table 11

Client's Attitude Toward Work

Scale	Average	SD	No.
Bad - good			
Unimportant - important			
Dull - interesting			
TOTAL SCALE			

Tables 9, 10 and 11 can be computed separately for clients closed in status 26 and in Statuses 08, 28 and 30 or you may want to include them in the same table.

I. Correlational Analyses

For those of you using a computer to summarize your data, we would like to suggest the following comparisons. These are correlations, using Pearson's Product Moment Correlation. (If you are omitting these analyses, skip to Part J of this section).

(1) Correlates of Job Satisfaction. This looks at the composite score for job satisfaction and compares it to a number of other factors. See Table 12 for a sample exhibit. (Be sure to ask your programmer which correlations are significant and identify them in your table).

Table 12

Correlates of Job Satisfaction

Variable	Correlation	No.
Age		
Number of dependents		
Education (grade completed)		
Rating on VR services		
Length of time holding present job		
Hours per week (work)		
Enjoyment out of job		
Client's rating of work personality		
Client's rating of work proficiency		
Client's rating of work personality and proficiency		
Employer's rating of work personality		
Employer's rating of work proficiency		
Employer's rating of work personality and proficiency		
Employer's rating of overall performance		
Self-acceptance		
Attitude toward work		
Agreement with spouse (family affairs)		
Occupational level		

(2) Correlates of Self-Acceptance. Table 13 looks at the total scale score for self-acceptance and compares it to the same factors as with Job Satisfaction, above.

Table 13

Correlates of Self-Acceptance

Variable	Correlation	No.
Age		
Number of dependents		
Education (grade completed)		
Rating of VR services		
Length of time holding present job		
Hours per week (work)		
Enjoyment out of job		
Job satisfaction		
Client's rating of work personality		
Client's rating of work proficiency		
Client's rating of work personality and proficiency		
Employer's rating of work personality		
Employer's rating of work proficiency		
Employer's rating of work personality and proficiency		
Employer's rating of overall performance		
Attitude toward work		
Agreement with spouse (family affairs)		

(3) Other Correlations. The same kinds of correlations can be done separately for the composite score of Attitude Toward Work, spousal conformity and any other factors you wish.

Other kinds of analyses you may wish to consider are intercorrelations of Work Personality, Work Proficiency and Overall Performance; and a 2 x 2 Chi Square contingency table of rating of VR services and need for VR services.

J. Analysis of Items Not Included in Tables

There are several items on the Employee Questionnaire which we have not included in any table. These are:

10 - Enjoyment other than money
11 - Means of getting a job
39 - 41 - Employment status of spouse
42 - Agreement with spouse on family affairs

We elected to discuss the results of these items in the narrative part of the follow-up report. You may include the information in tables under appropriate sections if you wish. Our rationale for not putting the findings in a table was that these particular items do not fit with the table format of items covering similar information. You will note, however, that the items are covered in Section IV, "Writing Your Report".

K. Reports

Appendix J contains one report that was made from these data for a presentation. This report will be most helpful to those who are computing t-tests, correlations, etc.

L. Other Comparisons

If you have available resources, i.e., time and staff, we suggest that you utilize information in the former clients' case record to make additional comparisons. This would enable you to look at such things as:

1. Earnings before and after rehabilitation
2. Relationship of current job to training received or job objective listed in rehabilitation plan
3. Employment outcomes for selected groups – by disability, training areas, facility services, etc.

Often more than one area can be investigated in one survey. Our point here is to give you a few ideas which can help you formulate additional areas for study.

SECTION IV

Writing Your Report

The following is a rough guide to give you some ideas about how you might write your report. Naturally you will have to add interpretations, conclusions and recommendations that are appropriate for your data. We've just outlined a suggested report to get you started. There is nothing sacred about this format, so use, revise, or discard as you see fit.

A. Introduction

In this section of your report include any pertinent information about your state agency, facility, district, etc. Also be sure to include your reasons for conducting the study and what you intend to do with the findings.

B. Method

1. Population and Sample

Former rehabilitation clients and their employers were surveyed. Clients were drawn from the _____

_____.

(e.g., annual listing of closed cases from the state vocational rehabilitation agency, or the listing of closed cases from the state rehabilitation facility, etc.) From a total of _____ vocational rehabilitation cases closed in Status (es) _____ during the time period from _____ to _____, _____ were randomly selected. *(If you used another sampling method, such as stratified random sampling, be sure to describe the technique you used.)* Of the _____ individuals selected for the study, questionnaires were completed for _____ former clients. Responses were received from _____ employers. A breakdown of these respondents is shown in Table 1.

Table 1

Questionnaire Response by Former Clients and Employers

Category	Total No.	Total %	Closed 26 No.	Closed 26 %	Closed 08, 28, 30 No.	Closed 08, 28, 30 %
Former Clients						
Total Population						
Total Sample						
Responses						
Unable to locate						
Deceased						
No response						
Employers						
Total Contacted						
Responses						
No Response						

2. Measuring Instruments

Two questionnaires were used. The form for former VR clients is shown in Appendix A, and the form for their employers in Appendix B. A description of questionnaire construction is included in Appendix C, and the factors tapped by the questionnaires in Appendix D. *(If you wish, you can just copy and use Appendices A, B and C of this manual as is, or with your own revisions. Your Appendix D will be Table A and Table B from Section II of the manual or Tables A and B can be included in your text under this section. If you include them here it will require a renumbering of our tables.)*

C. Analysis of Data

1. Client Characteristics

Table 2 shows the employment status of former clients, with _____ employed full time, _____ employed part time and _____ self employed.

Table 2

Employment Status of Former Clients

	Total		Closed 26		Closed 08, 28, 30	
Category	No.	%	No.	%	No.	%
Unemployed						
Training or Schooling						
Self-employed						
Employed part-time						
Employed full-time						
Total						

Among the _____ former clients closed in Status 26, _____% are employed, compared to _____% of the _____ former clients closed in Statuses 08, 28 and 30.

Demographic data for the _____ client respondents who are gainfully employed are summarized in Table 3.

Table 3B

Characteristics of Employed Clients

Factor	Closed 26 No. Clients	Avg.	Closed 08, 28, 30 No. Clients	Avg.
Age				
Education				
No. of Dependents				

Among the employed clients closed from Status 26, _____(accounting for _____%) are married; _____(_____%) are single, and _____ (_____%) are separated, divorced or widowed. For those closed in Statuses 08, 28 and 30, _____(accounting for_____%) are married; _____(_____%) are single, and _____ (_____%) are separated, divorced or widowed. *(Be sure to point out in your narrative the similarities and differences between the groups, i.e., employed and unemployed, closed Status 26 and closed Statuses 08, 28 and 30.*

The distribution of employed former clients in terms of their primary disabilities is as follows: *(This information should be taken from case records since it is not available on the forms. Although it is not absolutely necessary for your follow-up study, it does give a better picture of the client and we recommend its inclusion if at all possible.)*

_____ Visual impairments, accounting for_____%
_____ Hearing impairments, accounting for_____%

(continue your listing of disabilities)

The VR services rendered to these clients included _____ _____ *(e.g. counseling, physical restoration and vocational training. Again, this information should be taken from the case records and included if at all possible.)*

Of the _____employed clients, _____(accounting for ____%) received training, with this being further subdivided into those in college (_____clients at _____%) and in vocational and technical training programs (_____clients at _____%).

_____clients (accounting for _____%) received physical restoration services; _____ clients (accounting for _____%) received medical and surgical treatment; _____clients (_____%) received psychiatric or therapeutic treatment; and _____ (_____%) received appliances.

2. Client's View of VR Services

Clients were asked to give their opinions about vocational rehabilitation services. They were asked to rate the services on a 5-point scale. The results of their ratings are shown in Table 4.

Table 4

Client Rating of Vocational Rehabilitation Services

by Closure Status by Current Employment Status

	Closed 26				Closed 08, 28, 30			
	Employed		Unemployed		Employed		Unemployed	
Rating	No.	%	No.	%	No.	%	No.	%
Very poor								
Poor								
Uncertain								
Good								
Very good								
No Response								
Total								

Of the _____ clients responding, _____% considered VR services good and very good. An additional _____% rated the services as uncertain, poor and very poor. _____ % did not respond. From this, it can be concluded that these clients viewed VR services as _____

_____

(Include your interpretive comments here, including any differences based on closure status or employment status.)

Clients were also asked to give their opinions about VR services as having to do with meeting their vocational needs. The _____employed clients responded as shown in Table 5.

Table 5

Employed Clients Feedback on VR Services

(in percent)

Question	Total		Closed 26		Closed 08, 28, 30	
	Yes	No	Yes	No	Yes	No
Did VR training prepare you for your job? (Item 5)						
Were you able to do this type of work (present job) before you contacted VR? (Item 6)						
Did VR counselors assist you in finding your job? (Item 7)						
Do you need additional service from the VR counselor? (Item 3)						

As Table 5 shows, _____ of _____ clients reported that vocational rehabilitation prepared them for their jobs, with _____% responding favorably and _____% responding unfavorably. The extent to which VR services assisted in preparing them for their present job is further represented by _____% who felt they could do the job before VR services, _____% felt they had limited ability to do the work, and _____% felt they could not have performed their present job without VR services. _____ clients (_____%) did not respond to this question. *(Note: Table 5 is a "yes" and "no" response tabulation. For Item 6, two choices–ability and limited ability to do job–were interpreted as "yes" and one choice–unable to do job–was interpreted as "no". In our narrative, we have spelled out the percents for each of the three choices. This should present no problem since the data should be compiled using all three alternatives.)*

As for assistance rendered by VR counselors in job finding, _____ (_____%) felt the counselor had been helpful while _____ (_____%) responded in the negative. An additional item (Item 11) on the questionnaire also focused on this area. In completing the statement, "If at some time in the future you needed to get a job", _____ clients (_____%) felt that they themselves should find the job; _____ clients (_____%) felt that the counselor should find the job for them and _____ (_____%) felt that some other agency should get the job for them.

Of the employed clients, _____(____%) thought they would need additional services from the VR counselor. The services most frequently given were _____ (____%), _____(____%) *(e.g., training (20%), appliances (10%), etc. These services are listed in Item 3 and can simply be counted and included here. You might also want to include a comparison on Item 3 for unemployed clients if there are differences between the groups.)*

3. Employment Data—Employers

Types of businesses and industries represented by employers who completed the questionnaire and for whom former VR clients are working is shown in Table 6.

Table 6

Employers of VR Clients

Business	No. of Clients Employed	Business	No. of Clients Employed
Automobile body shop		High school	
Automobile dealer		Hospital and clinic	
Automotive springs and service		Homeowner	
		Hotel	
Bank		Industrial supplies	
Beauty salon		Lumber company	
Can manufacturing		Metal products	
Church		Nursing home	
Coal mining		Optical company	
Coffee shop		Power plant	
College dormitory		Realty company	
Community action assoc.		Restaurant	
Construction materials		Retail store	
County Board of Ed.		Sheltered workshop	
Delivery company		State Department of Employment Sec.	
Gas station			
Glass factory		State Dept. of Highways	
Grade school		State Police	
Grocery store		Transportation (bus) Co.	
Heating company		TOTAL	

Of the total questionnaires returned (_____ from former VR clients and _____ from employers), _____ matched pairs of employed clients and their respective employers resulted from the survey. *(Note: Matched pairs are used later for Figure 1. If you do not include Figure 1, omit this paragraph.)*

4. Employment Data—Employees

Of the _____employed clients who responded to the employee questionnaire, _____ (accounting for _____ %) had full-time jobs, _____ (accounting for _____%) worked part-time, and_____(_____%) were self-employed. In terms of hours per week, including the time it took to go to and from where the former clients worked,_____ clients (accounting for_____ %) worked over 40 hours;_____ clients (accounting for _____%) worked from 20 - 40 hours, and_____clients (_____ %) worked less than 20 hours. *(Note: This information is from Item 9 which we did put in a table).*

The types of occupations represented by these clients are shown in Table 7.

Table 7

Current Occupations of Former VR Clients

Occupation	N	Occupation	N
Automobile body repairman		Kitchen helper	
Automobile lot boy		Laborer	
Auto mechanic		Loan officer	
Babysitter		Mine foreman	
Beautician		Officer helper	
Box boy		Office supervisor	
Clerk - hotel		Packer	
Clerk - office		Practical nurse	
Clerk - stock		Realtor	
Community action aide		Seamstress/Tailor	
Computer operator		Secretary	
Cook		Service station attendant	
Custodian		Shoe machine operator	
Damage appraiser		Social worker	
Driver - bus		Stenographer	
Driver - truck		Teacher - public school	
Furnace installer		Waitress	
Heavy equipment operator		Welder	
Hospital (or nurse) aide		TOTAL	

Among the employed clients, _____ (accounting for _____%) reported that they had held the same job over one year; _____ (accounting for _____%) had held their jobs from seven months to one year; _____ (_____%) had held their jobs for from four to six months; and _____ (_____%) had held their jobs three months or less. There were _____ clients (_____%) who did not respond to this question. *(Note: This is Item 8 which was not included in a table.)*

Of the _____ self-employed clients who responded, they were employed as follows: _____ as _____, _____ as _____ etc. *(From Item 1 and Item 4.)*

5. Employer and Client Ratings of Client Work Personality and Proficiency

Clients' Work Personality (11 attributes plus the composite score) and work performance (6 attributes plus composite score) were evaluated by both the clients (No. = _____) and their employers (No. = _____).

In addition, the overall performance of the clients was assessed by their respective employers. It should be noted that a 5-point scale was used, with "1" representing the lowest rating and "5" the highest for assessing all of the individual attributes. Table 8 summarizes the results.

Table 8

Employer and Client Ratings of the Clients' Work Personality and Proficiency Attributes

	Employers			Clients		
Attributes*	Avg.	SD	No.**	Avg.	SD	No.
Ability to work with others						
Punctuality						
Cooperativeness						
Self-reliance						
Appearance						
Courtesy						
Motivation						
Reliability						
Work tolerance						
Initiative						
Attitude						
Work personality composite score						
Job knowledge						
Job skill						
Quality of work						
Care of equipment						
Safety practices						
Following shop rules						
Work proficiency composite score						
Work personality and proficiency composite score						
Overall performance						

* Items 16-32 consecutively on Employee form, Items 3-19 consecutive on Employer.
** Number of responses may vary since some respondents do not complete all items.

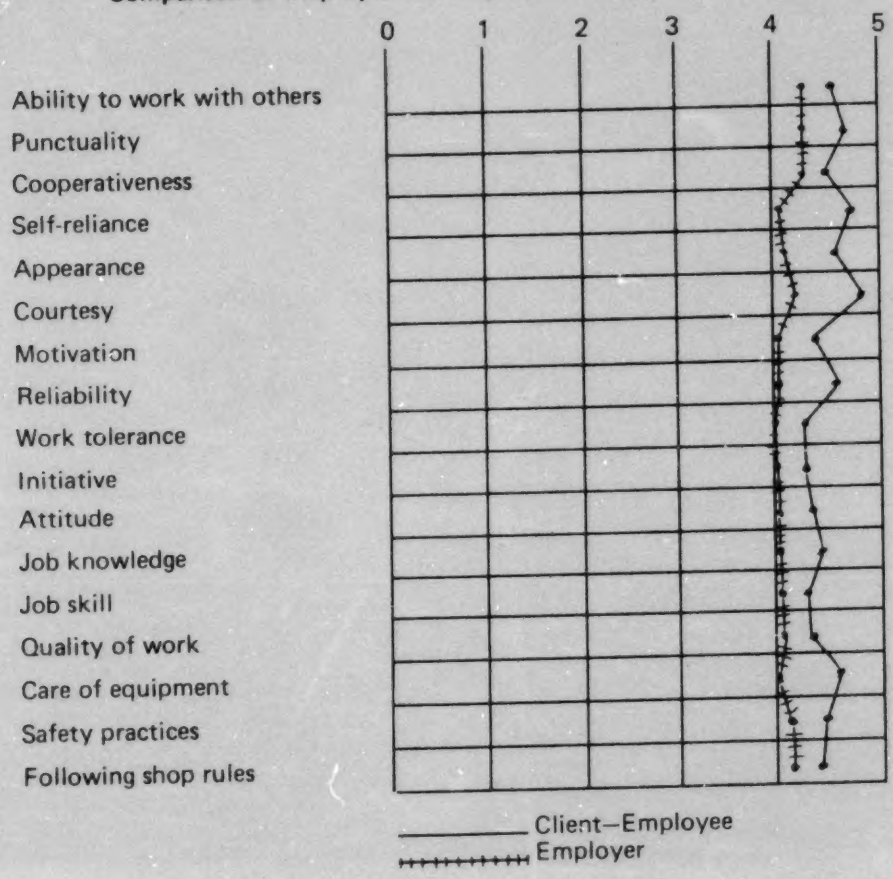
In terms of the one-item rating on the overall performance of the employed former clients, the employers showed an average rating of _____. This indicates they were _____ _____ *(e.g., quite happy about the clients' overall performance, moderately happy, unsatisfied, etc., as appropriate).*

As to the ratings of individual attributes within both the work personality and work proficiency areas, the employers gave their employees an average rating of _____ on _____. However, they rated at an average of _____ for _____. *(Here you may want to group the characteristics rated average and above average together, and the below average characteristics separately. This points to client strengths and weaknesses as perceived by the employer.)*

In order to graphically compare the ratings of former clients and their employers, matched questionnaires were used. Only those forms in which both the client and his employer responded were averaged. Figure 1 shows these averages, with one line for the employer and one for the former VR client.

Figure 1

Comparison of Employer and Employee Ratings



Note: t-tests can be computed to see if there is a significant difference between employee and employer averages for each item.

6. Job Satisfaction

The four-item, seven-point Hoppock Job Satisfaction Scale was used to measure job satisfaction. The results are shown in Table 9.

Table 9

Job Satisfaction

Item No.	Average	SD	No.
Item 12 (like job)			
Item 13 (satisfied with job)			
Item 14 (changing jobs)			
Item 15 (comparing job satisfaction with other people)			
TOTAL SCALE			

On the seven-point continuum, four represents the neutral point and any score larger than that indicates job satisfaction in the positive direction. Looking at Table 9 in this light, we see that the clients averaged _____ for job satisfaction. This would indicate that, as a group, they were _____

_____

(e.g., satisfied, not satisfied with their jobs, etc.)

This rating can be compared with the clients' response to the question, "Do you get any enjoyment, aside from the money you earn, out of your present job?" *(From Item 10, not included in a table).* Of the _____ clients responding, _____% received very much enjoyment, _____% much enjoyment, _____% little enjoyment and _____ % received no enjoyment at all aside from the money earned.

7. Self-Acceptance

A semantic differential instrument, using three bipolar adjectives, was used to yield the client's self-acceptance measure. Table 10 shows these results.

Table 10

Self-Acceptance of Clients

Scale	Average	SD	No.
Sad - happy			
Dissatisfied - satisfied			
Pessimistic - optimistic			
TOTAL SCALE			

Employed former VR clients, as a group, were _____ _____ *(e.g., moderately happy, satisfied and optimistic)* with averages of _____, _____, and _____. Again, on this seven-point scale, any number above four shows a positive trend, while numbers below 4 show a negative trend.

8. Attitude Toward Work

Another semantic differential instrument, also using three bipolar adjective scales, was used to measure the client's attitude toward work. Table 11 shows these results.

Table 11

Client's Attitude Toward Work

Scale	Average	SD	No.
Bad - good			
Unimportant - important			
Dull - interesting			
TOTAL SCALE			

The results indicate that employed, former VR clients considered the "world of work" to be _____ _____ as indicated by their averages of _____, _____ and _____.

9. Familial Situation

Four items (39 - 42) on the questionnaire dealt with the client and his family. Of the _____ married clients, _____(representing _____%) indicated that their spouse is now working. Of the _____ clients with working spouses, _____ (representing _____%) indicate that the spouse wants to work as opposed to _____(representing _____%) who feel that the spouse has to work. Of those married clients whose spouse does not work, (No. = _____), _____(representing _____%) state that the spouse wants to work but cannot, with the remaining _____ (_____%) stating that the spouse does not want to work. _____, accounting for _____%, did not respond to this question.

On the question of agreement on family affairs, _____clients (_____%) reported no agreement, _____ clients (_____%) reported rare agreement, _____ (_____%) reported agreement half the time, _____ (_____%) reported agreement most of the time, and _____ (_____%) reported agreement always. _____(_____%) did not respond to the question.

This data shows that _____

_____ *(e.g., generally clients' spouses want to work but cannot, and that there is moderate agreement on family affairs, etc.)*

10. Correlational Analyses

a. Correlates of Job Satisfaction

The total score for Items 12 - 15 was compared with selected variables. The results are shown in Table 12.

Table 12

Correlates of Job Satisfaction

Variable	Correlation	No.
Age		
Number of dependents		
Education (grade completed)		
Rating on VR services		
Length of time holding present job		
Hours per week (work)		
Enjoyment out of job		
Client's rating of work personality		
Client's rating of work proficiency		
Client's rating of work personality and proficiency		
Employer's rating of work personality		
Employer's rating of work proficiency		
Employer's rating of work personality and proficiency		
Employer's rating of overall performance		
Self-acceptance		
Attitude toward work		
Agreement with spouse (family affairs)		
Occupational level		

b. Correlates of Self Acceptance

Table 13 shows the results of a comparison of the toal score for Items 33 - 35 with selected variables.

Table 13

Correlates of Self-Acceptance

Variable	Correlation	No.
Age		
Number of dependents		
Education (grade completed)		
Rating of VR services		
Length of time holding present job		
Hours per week (work)		
Enjoyment out of job		
Job satisfaction		
Client's rating of work personality		
Client's rating of work proficiency		
Client's rating of work personality and proficiency		
Employer's rating of work personality		
Employer's rating of work proficiency		
Employer's rating of work personality and proficiency		
Employer's rating of overall performance		
Attitude toward work		
Agreement with spouse (family affairs)		

c. Other Correlations

(Include any other correlations you may have computed).

d. Conclusions and Recommendations

Include here a brief summary of your findings, including an interpretation of what they mean. You might like also to make recommendations.

Special Notes:

1. *If you perform t-tests for Figure 1, it would be appropriate for those results to follow Figure 1 in that section.*

2. *If you perform any Chi square analyses, you may place them in the appropriate sections. We did not include these tables since those individuals familiar with such analyses should have no difficulty in reporting them.*

3. *Be sure to highlight any differences which show up between clients closed in Status 26 and those closed in Statuses 08, 28 and 30, as well as between employed and unemployed former clients.*

APPENDIX A

Employee Questionnaire

Dear _____:

We are interested in your current employment. Please fill out the enclosed questionnaire and return it to us in the self-addressed, stamped envelope. Thank you.

Name: _____

Age: _____

Marital Status: _____ Number of Dependents: _____

Education (circle the grade completed):

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A. 1. At the present time, a description of my work situation is (Circle ONE of the following categories):

1. Unemployed
2. Training or schooling (full or part time)
3. Self-employed
4. Employed part time
5. Employed full time

If you are employed part time or full time complete the following:

Name of the firm _____
Address _____
Phone Number _____
Immediate Supervisor _____

2. How would you rate the Vocational Rehabilitation services?

1. Very good
2. Good
3. Uncertain
4. Poor
5. Very poor

3. Do you think you will need additional service from the Vocational Rehabilitation counselor?

   1. Yes
   2. No

   If you answered yes, what services would you like to have offered _____

   _____

   _____

   _____

   IF YOU ARE NOT EMPLOYED, do not complete the rest of the questionnaire. Return the entire questionaire in the envelope provided.

4. What is your present job? (Give title) _____

5. Did Vocational Rehabilitation training prepare you for your job?

   1. Yes
   2. No

6. Were you able to do this type of work before you contacted Vocational Rehabilitation?

   1. Able to do this work
   2. Limited ability to do this work
   3. Not able to do this work

7. Did the Vocational Rehabilitation counselor assist you in finding your job?

   1. Yes
   2. No

8. How long have you had your present job _____ months.

9. How many hours do you work per WEEK, including the time it takes you to go to and from where you work? (Circle ONE)

   1. Not working now
   2. Less than 20 hours
   3. 20 - 40 hours
   4. Over 40 hours

10. Do you get any enjoyment, aside from the money you earn, out of your present job? (Circle ONE)

    1. Not at all
    2. Little
    3. Much
    4. Very much

11. If at some time in the future you needed to get a job, do you feel that (Circle ONE)

    1. You should find the job for yourself?
    2. Your counselor should find the job for you?
    3. Some other agency should get a job for you?

12. Circle ONE of the following statements which best tells how well you like your job.

    1. I hate it
    2. I dislike it
    3. I don't like it
    4. I am indifferent to it
    5. I like it
    6. I am enthusiastic about it
    7. I love it

13. Circle ONE of the following to show how much of the time you feel satisfied with your job.

    1. All the time
    2. Most of the time
    3. A good deal of the time
    4. About half of the time
    5. Occasionally
    6. Seldom
    7. Never

14. Circle ONE of the following which best tells how you feel about changing your job.

    1. I would quit this job at once if I could get anything else to do.
    2. I would take almost any other job in which I could earn as much as I am earning now.
    3. I would like to change both my job and my occupation.
    4. I would like to exchange my present job for another job.
    5. I am not eager to change my job, but I would do so if I could get a better job.
    6. I cannot think of any jobs for which I would exchange.
    7. I would not exchange my job for any other.

15. Circle ONE of the following to show how you think you compare with other people.

    1. No one likes his job better than I like mine.
    2. I like my job <u>much better</u> than most people like theirs.
    3. I like my job <u>better</u> than most people like theirs.
    4. I like my job about as well as most people like theirs.
    5. I dislike my job <u>more</u> than most people dislike theirs.
    6. I dislike my job <u>much more</u> than most people dislike theirs.
    7. No one dislikes his job more than I dislike mine.

B. 16. I don't have trouble with my co-workers.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

17. I go to work on time and return from breaks on time.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

18. I get along well with my supervisor.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

19. I get my work done without being told by my supervisor.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

20. I try to look my best when I'm doing my job.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

21. I usually try to be polite to my supervisor and to others while I'm working.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

22. I think I gain as much from the work as I put into it.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

23. I can always be counted on to get my job done.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

24. I don't mind working really hard all day long.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

25. I start new jobs without waiting to be told by my supervisor.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

26. I regard my present job as an important one.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

27. I think my knowledge about my job is

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

28. My work skill in the trade is

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

29. I think the quality of my work is

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

30. I think my operation and care of equipment are

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

31. My observance of safety practices in the shop is

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

32. I think my following the shop rules is

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

33. I myself am

1. Extremely happy
2. Quite happy
3. Slightly happy
4. Neither happy nor sad
5. Slightly sad
6. Quite sad
7. Extremely sad

34. I myself am

1. Extremely satisfied
2. Quite satisfied
3. Slightly satisfied
4. Neither satisfied nor dissatisfied
5. Slightly dissatisfied
6. Quite dissatisfied
7. Extremely dissatisfied

35. I myself am

1. Extremely optimistic
2. Quite optimistic
3. Slightly optimistic
4. Neither optimistic nor pessimistic
5. Slightly pessimistic
6. Quite pessimistic
7. Extremely pessimistic

36. The world of work is

1. Extremely good
2. Quite good
3. Slightly good
4. Neither good nor bad
5. Slightly bad
6. Quite bad
7. Extremely bad

37. The world of work is

1. Extremely important
2. Quite important
3. Slightly important
4. Neither important nor unimportant
5. Slightly unimportant
6. Quite unimportant
7. Extremely unimportant

38. The world of work is

1. Extremely interesting
2. Quite interesting
3. Slightly interesting
4. Neither interesting nor dull
5. Slightly dull
6. Quite dull
7. Extremely dull

C. If you are not married, skip items 39 through 42, and return the completed questionnaire to us in the self-addressed envelope. If you are married, please complete items 39 - 42.

39. Is your husband (or wife) working now? (Please circle)

    1. Yes
    2. No

40. If your husband (or wife) is working now, Circle ONE of the following statements.

    1. She (or he) has to work.
    2. She (or he) wants to work.

41. If your husband or wife is not working now, Circle ONE of the following statements.

    1. She (or he) wants to but cannot.
    2. She (or he) does not want to.

42. Do you agree with your husband or wife on family affairs. (Please circle ONE).

    1. Never
    2. Very rarely
    3. Half of the time
    4. Most of the time
    5. Always

This is the end of the questionnaire. Please use the enclosed self-addressed envelope to return the completed form to us.

Thank you for your cooperation.

APPENDIX B

Employer Questionnaire

Dear Sir/Madam:

We are surveying the job performance of former vocational rehabilitation clients. We understand that the following individual is now working for you. Would you please have the immediate supervisor of this employee complete the questionnaire and return it to us with the enclosed, self-addressed, stamped envelope? Thank you for your cooperation.

Your Employee's Name: _____

1. What is this employee's job title? _____

2. How many hours does this employee work per WEEK? (Please circle one of the following categories)

   1. Less than 20 hours
   2. 20 - 40 hours
   3. Over 40 hours

Items 3 through 21 are statements about this employee and his (or her) performance. Please read each statement carefully and circle ONE of the provided answers which indicates how much you agree or disagree with the item.

3. The employee does not have trouble with his/her co-workers.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

4. The employee comes to work on time and returns from breaks on time.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

5. The employee gets along well with the supervisor.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

6. The employee gets work done without being told by the supervisor.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

7. The employee tries to look his/her best when he/she is doing his/her job.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

8. The employee usually tries to be polite to the supervisor and to others while he/she is working.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

9. The employee appears to be highly motivated in his/her work.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

10. The employee can always be counted on to get his/her job done.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

11. The employee doesn't mind working really hard all day long.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

12. The employee starts new jobs without waiting to be told by the supervisor.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

13. The employees' attitude toward his/her present job is good.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

14. The employee's knowledge about his/her job is

    1. Very good
    2. Good
    3. Fair
    4. Poor
    5. Very poor

15. The employee's work skill in the trade is

    1. Very good
    2. Good
    3. Fair
    4. Poor
    5. Very poor

16. The quality of the employee's work is

    1. Very good
    2. Good
    3. Fair
    4. Poor
    5. Very poor

17. The employee's operation and care of equipment are

    1. Very good
    2. Good
    3. Fair
    4. Poor
    5. Very poor

18. The employee's observance of safety practices in the shop is

    1. Very good
    2. Good
    3. Fair
    4. Poor
    5. Very poor

19. The employee's compliance with rules in the shop is

    1. Very good
    2. Good
    3. Fair
    4. Poor
    5. Very poor

20. The employee's overall performance is satisfactory.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

21. The employees training through Vocational Rehabilitation is important to his/her job performance.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

We would appreciate any other comments you may have about this employee or the Vocational Rehabilitation services.

Thank you for your cooperation.

APPENDIX C

Questionnaire Characteristics

A. Employee Questionnaire

Factors tapped by the questionnaire are shown in Table A in the text. The four-item Hoppock Job Satisfaction Blank (items 12 - 15 of the Employee Questionnaire) is reported to have the split-half reliability of .87, corrected by the Spearman-Brown formula to .93 (N=301, Hoppock 1935). Dr. M. S. Tseng, of the Research and Training Center, had administered the Hoppock Job Satisfaction Blank and a 31-item General Job Satisfaction Scale developed by the University of Minnesota Industrial Relations Center (Carlson, Dawis, England and Lofquist, 1962) to a sample of former clients of the West Virginia Rehabilitation Center, and obtained a very high correlation of .93 (N=52, $p < .001$) between the two job satisfaction measures. Based on this finding and taking into consideration that it consisted of only four items, the Hoppock Blank was selected to yield a global measure of job satisfaction of the VR 26's who were employed.

The Tseng Work Personality subscale is an eleven-item summative rating scale (Items 16 - 26 of Employee Questionnaire) and is designed to yield a global measure of the individual's assessment of his own personal quality in a work situation. The eleven attributes that constitute the work personality measure are: the ability to work with others, punctuality, cooperativeness, self-reliance, appearance, courtesy, motivation, reliability, work tolerance, initiative, and attitude toward job (Tseng, 1972). This subscale has the split-half reliability (with the Spearman-Brown correction) of .80 (N=113) and the internal consistency as measured by Cronbach Alpha of .86 (N = 113).

The Tseng Work Proficiency Subscale is a six-item summative rating scale (Items 27 - 32 of Employee Questionnaire) designed to yield a composite score of the individual's assessment of his own proficiency on the job. The six attributes that constitute the work proficiency measure are: job knowledge, job skill, quality of work, care and operation of equipment, observance of safety practices, and compliance with work rules (Tseng, 1972). The split-half reliability with the Spearman-Brown correction and the internal consistency as measured by Cronbach Alpha of this subscale are .89 (N=113) and .84 (N=113), respectively. The total scale, the composite of work personality and work proficiency subscale, has the split-half reliability (with the Spearman-Brown correction of .88 (N=113) and the internal consistency (Cronbach Alpha) of .89 (N=113).

A client's self-acceptance and attitude toward work were tapped by the seven-point semantic differential scales (Osgood, Suci, and Tannenbaum, 1957) with three bipolar adjectives for each of the two variables (Items 33 - 35 and Items 36 - 38 of the Employees Questionnaire). The three bipolar adjectives used to measure the client's self-acceptance are: happy-sad, satisfied-dissatisfied and optimistic-pessimistic. The three bipolar adjectives used to quantify the clients' attitude toward the world of work are: good-bad, important-unimportant, and interesting-dull.

Such familial variables as the spouse's employment status and the reasons behind it (Item 39 - 41 of Employee Questionnaire) and spousal conformity on family affairs (Item 42 of Employee Questionnaire) can be examined in connection with the married client-employees.

B. Employer Questionnaire

Variables tapped by this questionnaire are summarized in Table B in the text. The Tseng Work Personality Subscale for the Employer is an eleven-item summative scale (Items 3 - 13 of Employer Questionnaire) designed to yield a composite measure of the client's personal quality in a work situation as rated by his supervisor. This subscale—as does its counterpart for the client-employee (Items 16 - 26 of Employee Questionnaire) deals with the following eleven attributes: the ability to work with others, punctuality, cooperativeness, appearance, courtesy, motivation, reliability, work tolerance, initiative, and attitude toward job (Tseng, 1972). The split-half reliability corrected by the Spearman-Brown formula and internal consistency as measured by Cronbach Alpha of this subscale are .94 (N=114) and .91 (N=114), respectively.

The Tseng Work Proficiency Subscale for the employer is a six-item summative rating scale (Items 14 - 19 of Employer Questionnaire) that yields a global measure of the client-employee's work proficiency as rated by his supervisor. This subscale-like its counterpart for the client (Items 27 - 32 of Employee Questionnaire) deals with six attributes: job knowledge, job skill, quality of work, care and operation of equipment, observance of safety practices, and compliance with work rules (Tseng, 1972). It has the split-half reliability with the Spearman-Brown correction of .94 (N=114) and the internal consistency (Cronbach Alpha) of .89 (N=114).

The total scale (composite of work personality and work proficiency subscales) has the split-half reliability corrected by the Spearman Brown formula and the internal consistency as measured by Cronbach Alpha of .95 (N=114) and .94 (N=114), respectively.

REFERENCES

Carlson, R. E., Dawis, R. V., England, G. W., and Lofquist, L. H. Minnesota Studies in Vocational Rehabilitation: XIII. The Measurement of Employment Satisfaction. Minneapolis, Industrial Relations Center, University of Minnesota, 1962.

Hoppock, R. Job Satisfaction, New York: Harper and Row, 1935.

Osgood, C. E., Suci, G. J., and Tannenbaum, P. H. The Measurement of Meaning. Urbana: University of Illinois, 1957.

Tseng, M. S. Predicting Vocational Rehabilitation Dropouts from Psychometric Attributes and Work Behaviors. Rehabilitation Counseling Bulletin, 1972, 15, 154-159.

REHABILITATION TOMORROW

WEST VIRGINIA RESEARCH AND TRAINING CENTER INSTITUTE, WEST VIRGINIA 25112 VOL. 4, NO. 5, MAY 1974

SAMPLING: THE WHY AND HOW

Part I

Evaluating different aspects of the vocational rehabilitation (VR) program is the only way to find out how well the program is doing. But, who has time to look at every case for every evaluation study to be conducted? No one!

Actually, it really isn't necessary to examine every case or file to get a picture of what's going on. For instance, when a doctor does a blood test, he takes a small portion—or sample—of blood and runs an analysis of this. He can then make statements about the entire bloodstream, based on this blood sample.

How Does This Relate To The VR Program?

You can do the same thing in VR. All the people in a particular category that you are trying to make some determinations about are called a population, just as all your blood represents a population. For example, a population might be all of the cases ever closed in status 26 in your territory. If you wanted to have some answers about all these clients, you could ask everyone of these persons (the population), or you could ask some of them (a sample). The portion of any population that you talk to, then, becomes your sample.

What Are The Advantages of Sampling?

For instance, with your caseload, you can take a sample of all your cases, look carefully at some aspects of these cases, and make some generalizations which will apply to your entire caseload.

To give you some other examples, a rehabilitation counselor—or state evaluator, or district supervisor—might want to answer some questions about (1) caseload for the current fiscal year, or (2) all the cases closed in status 08 during a certain length of time, or (3) all the cases in a particular disability category. By taking a sample, you are able to find out the same things you would have found out if you had looked at everyone in the population.

Since it is often too time-consuming to consider working with the entire population, we have to limit ourselves to studying a selected number of the members of a particular population. Otherwise, we would be severely limited in the number of evaluations we could do.

But, What Is A Good Sample?

Sampling techniques have been developed that will permit us to study a population by drawing the sample in such a way that it is representative of that population. Since the number of possible rehabilitation populations is limited only by the needs and/or the creativity of the person studying the VR program, sampling techniques become a very important part of evaluation.

Since we've said that it's O.K. to draw some conclusions about a population by examining a few members (sampling) from that population, the question arises—how do you know which cases to look at?

The most common method for selecting a good sample is to randomly choose members from that population. (We will discuss random sampling in the next issue.) A random sample will allow you to get a representative group so you can make unbiased generalizations about your total population.

What Do You Mean By Unbiased?

Remember, a sample "represents" an entire population. A biased sample is one that is not truly representative of a particular population. Care must be taken to be sure that your sample is unbiased (or as unbiased as possible). So, if the sample is drawn from a population in a biased way, then the sample is not representative of the entire population and limits the validity of your generalizations. Some examples of a biased sample would be:

1. Taking every third client file for case review (not every client had an equal chance of being chosen).
2. All the clients in district A to represent clients across the state. (District A may not be representative of all other districts).

How Many People Do I Need For A Sample?

It will vary, depending on the total number in your population. Ten percent of 10,000 cases (a sample of 1,000) is a good sample, but 10% of 100 cases (a sample of 10) isn't very good. We'll cover this later and give you some general guides.

What Next?

In addition to general guides on how many to use in a sample, we'll be covering the use of the table of random numbers to get your random sample, and will cover another kind of sampling that you will want to consider using for certain kinds of evaluation.

REHABILITATION TOMORROW

WEST VIRGINIA RESEARCH AND TRAINING CENTER INSTITUTE, WEST VIRGINIA 25112 VOL. 4, NO. 6, JUNE 1974

RANDOM SAMPLING
Part II

We discussed the why and how of sampling techniques in the previous issue. We stated that the most common method of selecting a good sample is to randomly choose members from a population but didn't tell you what to do.

How Do You Get A Random Sample?

A simple method of random sampling is to:

1. Assign a number to all members of the population.
2. Write those numbers on individual pieces of paper and put them in a container.
3. Draw out a number. Note the number that you draw, and place that number back in the container, and draw another number. (You may end up drawing the same number twice, but that's O.K.).
4. The numbers you draw represent the members of your population that are to be included in your sample.

A random sample, then, is a sample in which every member of the population has an equal chance of being chosen—every time.

Doesn't That Make For A Big Container?

We gave you this method to show you the principle. It can be useful in some cases, but it could be time-consuming—especially if the population is large. However, there are other ways of getting a random sample that have the same effect. These methods include using random tables or letting a computer choose your sample for you.

How Do You Use The Table of Random Numbers?

A table of random numbers is designed with rows and columns of digits from 0-9 that have been arranged randomly. Each digit has about an equal chance of occuring at any place in the table. This way the table can be read in any direction and starting from any point on the table. In using the table the first thing to do is to assign a number to each subject in the population. The numbers all must have as many digits as the total number of the population. For example, if the population has 987 clients, the first subject will be 001 and the tenth subject will be 010. Each will then have three digits. If your study, for instance, is of 56 people, closed in status 26 during 1965, the first case will be assigned 01, the tenth 10, etc.

What's Next?

Now that each client or member has been assigned a number, let's take a close look at how to use the table to assign members of a population to a sample.

Row	00000 01234	00000 56789
00	23157	54859
01	05545	55043
02	14871	60350
03	38976	74951
04	97312	61718
05	11742	69381
06	43361	28859
07	93806	20478
08	49540	13181
09	36768	72633
10	07092	52392

For example, we have a group of seventy-five people which we have assigned the numbers 01 to 75. We want to select 10 subjects. Let's begin by reading the first two digits of the second column. Going down we find 54, 55, 60, 74, 61, 69, 28, 20, 13, 72, and 52. The subjects who have these numbers will be the sample of ten.

What Else Do I Need To Know?

A number that is higher than the number of people in your population is just ignored. (We had 75 people. If the number in table was 76 or larger, we'd ignore it.) Also, you don't need to pay any attention to a number if you find it more than once in the table. If you finish one column or row and you don't yet have enough subjects, you can begin another column or row wherever you choose.

We reproduced a small segment from a random table for demonstration purposes. Any statistics textbook will have a Table of Random Numbers which you can use for selecting a sample from any population you are going to work with.

BULK RATE
U.S. POSTAGE
PAID
CHARLESTON, WV
PERMIT NO. 271

RESEARCH AND TRAINING CENTER
INSTITUTE, WEST VIRGINIA 25112

REHABILITATION TOMORROW

WEST VIRGINIA RESEARCH AND TRAINING CENTER INSTITUTE, WEST VIRGINIA 25112 VOL. 4, NO. 7, JULY 1974

STRATIFIED RANDOM SAMPLING

Part III

In the last issue we established that simple random sampling is a method of drawing samples such that each and every member of the population has the same chance of being included in the sample. One method is the lottery. Another is with the table of random numbers. Simple random sampling is an excellent way to look at a portion of all the cases and make some generalizations about the entire population. This works well when you are looking at the population as a group of people that is pretty much alike. For example, you can draw a sample from all the cases in your territory, unit, or district that were closed in fiscal year 1972. You can make some statements about all these clients.

What About Members Who Aren't Alike?

Categories are not always the same! There are some very important categories in which clients can be included, e.g. by disability, age, rural or urban residents, etc. Other categories might be type of program, kinds of services received, or amount spent on services. It may be important for you to make sure that your sample includes some members from certain subgroups, which researchers call strata. A type of sampling has been developed to obtain a sample which is representative of cases in all the strata. . .stratified random sampling. This is what we will talk about in this issue.

Give Me An Example!

Your population is all the cases carried by field counselors in your district (1000 cases), and you are interested in the type of clients seen by the different counselors. Let's assume that (1) there are 10 field counselors, and (2) each counselor carries a varying percentage of the cases. (See Chart I).

To draw a stratified random sample we should decide how many clients we'll have in our sample. Let's arbitrarily say we'll pull 100 from the 1000. To be representative of each strata (i.e., each counselor's caseload), the percentage of cases from each strata in the sample should be the same as the percentage of cases from each strata in the population. For example, in this district, counselor 1 has 20%, i.e., 200 clients. To draw a stratified random sample we would pull 20% of our sample from counselor 1's 200 cases, 10% from counselor 2's 100 cases, 10% from counselor 3's 100 cases, etc. So in our sample of 100 we'll have 10 strata, with varying numbers of cases in each. This example is illustrated in Chart II.

Another example of a stratified random sample: Counselor Smith has 100 active cases. Sixty clients (60% of his caseload) have obvious physical disabilities. The other 40 clients (40% of his caseload) have handicaps which don't show. He is going to survey a sample of his clients for attitudes toward their disabilities and wants to fairly represent those with visible problems and those with hidden disabilities. He will randomly draw 60% of his sample from those clients with physical disabilities and 40% from the clients who have hidden disabilities. Counselor Smith has drawn a stratified random sample.

In review, stratified random sampling is a way to look at a population that has various segments and to proportionally represent each segment in the sample. The sample of each segment is selected randomly and independently from the sample of any other segment.

Chart I
Population

District X	1000 Cases	% of Population
Counselor 1	200 "	20%
2	100 "	10%
3	100 "	10%
4	50 "	5%
5	50 "	5%
6	150 "	15%
7	50 "	5%
8	100 "	10%
9	150 "	15%
10	50 "	5%

Chart II
Sample

District X	100 Cases	% of Sample
Counselor 1	20 "	20%
2	10 "	10%
3	10 "	10%
4	5 "	5%
5	5 "	5%
6	15 "	15%
7	5 "	5%
8	10 "	10%
9	15 "	15%
10	5 "	5%

This issue was prepared by Alice Randolph in collaboration with M. S. Tseng and Kathryn Greever, Research and Training Center, West Virginia University, 509 Allen Hall, Morgantown, West Virginia 26506.

PEVRS, a special series of Rehabilitation Tomorrow, will be released periodically by the Research and Training Center, Institute, West Virginia 25112. The R & T Center is sponsored jointly by West Virginia University and the West Virginia Division of Vocational Rehabilitation and supported in part by Grant RT-15, Social and Rehabilitation Services - Department of Health, Education and Welfare, Washington, D. C.

BULK RATE
U.S. POSTAGE
PAID
CHARLESTON WV
PERMIT NO. 271

RESEARCH AND TRAINING CENTER
INSTITUTE, WEST VIRGINIA 25112

REHABILITATION TOMORROW

WEST VIRGINIA RESEARCH AND TRAINING CENTER INSTITUTE, WEST VIRGINIA 25112 VOL. 4, NO. 8, AUGUST 1974

SAMPLING: LOOKING AT SAMPLE SIZE AND BIASES

Part IV

In earlier issues on sampling we talked about the importance of having a random sample to assure that your results would be representative of your total population.

Sample size is another important part of sampling. If the sample is too small, it will not be representative of the population. On the other hand, if your sample contains more cases than you need, it could be both time-consuming and tedious.

How Large Should A Sample Be?

We know of no "cut and dried" formula or table for determining exact sample size. However, we can suggest some ranges that you may use as guidelines. These suggestions are based on our experience. There are more complicated statistical techniques for determining certain size samples for specific uses, but the ones we list in the table below should be adequate for general use.

Samples which correspond to our guide will allow you to safely generalize from your sample to your population. Our suggestions are for different sized random samples.

The lower end of the range in the table represents the minimum percent you should consider and the upper end, the maximum.

Selecting Sample Size

Size of Population	Percent of Population to be in Sample
1 - 10	Use all cases
10 - 100	50 - 100%
100 - 250	25 - 50%
250 - 500	10 - 25%
500 - 1000	5 - 10%
1000 - 5000	2 - 5%
Over 5000	1 - 2%

Are Things As Good As They Look?

A common method of gathering information for a study is to mail questionnaires. The mailing list is a randomly selected sample, but usually only a portion of the questionnaires are returned. The characteristics of people who return these forms may affect the information you are trying to obtain and, therefore, may not be representative of the sample. For instance, if you are asking clients in status 20 if they are looking for employment and 60% of those clients polled respond, these responses will probably be made by the more dependable or active clients who cannot represent all the clients in the sample. These two personality characteristics seem more common to people who actively seek employment. So you have what is known as a biased sample. In biased sampling certain types of cases have more chances of being selected.

What Can You Do About These Biases?

Unfortunately, sometimes you can do nothing about some biases. For instance, with the questionnaire survey techniques, there is very little you can do about the characteristics of people who respond. Just knowing that some of these biases might show up can help you clarify your results. If you write a report of your findings, note these biases in a section such as "limitations" or in the definition of your sample or population.

What If I Don't Have Much Choice?

So far we've discussed the more ideal or "pure" methods of sampling. But, practically speaking, some clients are more available than others. Let's consider a study done by a state director of vocational rehabilitation who chooses to select a sample from clients in one territory in the state's largest city, where he happens to be, rather than choosing a sample from all the clients in the state. He is asking the clients that were closed in status 26 last year, how many job interviews they went to before they actually obtained employment. His sampling technique is called incidental sampling, i.e., using those cases or items that are most readily available. He is using clients from one territory from his own city, rather than from the entire state.

What Generalizations Can You Make From Incidental Samples?

You've got to be more careful in defining your population from which an incidental sample is drawn. Each significant property of the sample that might be related to the outcome that you are looking at must be defined. You can then generalize to the population that has these same significant characteristics. Let's go back to the example. The state director might find that the clients who were closed in "26" that he questioned went to an average of 8 job interviews before they obtained employment. Some significant properties of his sample are availability of transportation and a high number of new job listings daily. His conclusions would not be valid for a population that didn't have these same properties, for instance, a territory in a rural farming community. But his findings probably do generalize to other territories in the same city and other cities of comparable size and industry. So, incidental sampling can be useful.

And So . . . . . .

In the last few issues we've discussed several of the most common types and most reliable ways of drawing a sample. If you have a problem, contact your R & T Center or a text on research design or statistics.

This issue was prepared by Alice Randolph in collaboration with M. S. Tseng and Kathryn Greever, Research and Training Center, West Virginia University, 509 Allen Hall, Morgantown, West Virginia 26506.

PEVRS, a special series of Rehabilitation Tomorrow, will be released periodically by the Research and Training Center, Institute, West Virginia 25112. The R & T Center is sponsored jointly by West Virginia University and the West Virginia Division of Vocational Rehabilitation and supported in part by Grant RT-15, Social and Rehabilitation Services - Department of Health, Education and Welfare, Washington, D. C.

BULK RATE
U. S. POSTAGE
PAID
CHARLESTON, WV
PERMIT NO. 271

RESEARCH AND TRAINING CENTER
INSTITUTE, WEST VIRGINIA 25112

APPENDIX E

Additional Questionnaire Items

1. What was your spouse's (or parents') attitude towards your participation in the rehabilitation program?

   1. Favorable
   2. Unfavorable
   3. Indifferent

2. To what extent do you feel that your family understands the problems you have experienced?

   1. Not at all
   2. Somewhat
   3. Moderately
   4. A great deal
   5. Completely

3. Has your spouse (or parents) been helpful in your efforts to become retrained or employed?

   1. Not at all
   2. Somewhat
   3. Moderately
   4. A great deal
   5. Completely

4. Rate how well you get along with each of the following members of your family.

	Mother	Father	Spouse	Sons	Daughters
1. Not at all	_____	_____	_____	_____	_____
2. Very poorly	_____	_____	_____	_____	_____
3. Fairly well	_____	_____	_____	_____	_____
4. Well	_____	_____	_____	_____	_____
5. Very well	_____	_____	_____	_____	_____

5. Put the appropriate number in the blanks.

1. Not at all
2. Sometimes
3. Usually
4. Most of the time
5. A great deal

I like to:

____Tell other family members what to do.
____Be busy or actively involved in family activities.
____Try-out or do new things with the family.
____Do things alone, without the rest of the family.
____Receive recognition in my family for the work that I do.
____Consult the rest of the family on the decisions I make.

APPENDIX F

Rehabilitation Center Clients Follow-Up Study by

Research and Training Center and West Virginia

Division of Vocational Rehabilitation

QUESTIONNAIRE

Interviewer _____

Date _____ Serial Number _____

1. Name _____

2. Address _____ 3. Phone _____
   Street City County

4. Date of Birth _____ 5. Sex _____ 6. Race _____ 7. Marital Status
   Before _____
   After _____

8. Dependents before _____ 9. Education before _____
   after _____ after _____

10. Disability before _____ 11. What training did you receive at R. C.?
    after _____

12. How long? _____ 13, Did you complete it? Yes _____ No _____

14. If not, why? _____

15. Did you receive any further training after leaving R. C.? Yes _____ No _____

16. If yes, in what area? _____ 17. How long? _____

18. Sponsored by _____

19. Did you have any special training before coming to R. C.? Yes ____ No _____

20. If yes, in what area? _____ 21. How long _____

22. Sponsored by _____ 23. Are you working now? Yes ____ No _____

24. List all jobs you have had up to the present starting from most recent job. Also, indicate the first job you had after leaving R. C. (If needed, use additional sheet of paper).

	Job Title	Date From	Date To	Income Per Month	How Obtained	Reason for Leaving
1.						
2.						
3.						
4.						
5.						

25. What was your source of income during unemployment? _____

_____

26. What is the name and address of the last employer? _____

_____

27. How many times have you been at the Rehabilitation Center? _____

28. How would you rate the services you received from R. C.?

(1) Very Good (2) Good (3) Moderate (4) Bad (5) Very Bad

Training _____

Treatment _____

Counseling _____

Food _____

Recreation _____

Living Conditions _____

29. Did R. C. services help you

	YES	NO
to get a job?	1	2
in work adjustment?	1	2
in personal adjustment?	1	2

30. In an overall manner, how much did you gain from the R. C. services?

(1) Very Much (2) Lot (3) Some (4) None (5) Wasted My Time

31. Did you hesitate to go to R. C. when first asked to by the counselor? Yes 1 No 2

32. If yes, why? _____

33. Did you change your mind (attitude) about the R. C. when you finished the programs? Yes 1 No 2

34. If yes, why? _____

35. What is the thing you liked least about the R. C.? _____

36. What is the thing you liked most about the R. C.? _____

37. Do you have any suggestions by which R. C. could serve you better? _____

_____

_____

_____

APPENDIX G

Spread Sheet

Project _____ Date _____ Name _____ Page _____

APPENDIX H

Forms for Compiling Data

The following forms are to be used for hand tabulation of data from Employee Questionnaires. Similar sheets can be made up for the Employer Questionnaire.

INSTRUCTIONS

1. Assign a number to each questionnaire. For ease in locating matched pairs of employees and employers, you might use the same number for both with a suffix to denote the employer, e.g., 14 and 14A.

2. Enter the information from a questionnaire all on one line across the page.

3. Place an X in the appropriate column for each item on the questionnaire (excluding age where you would enter the actual age). Columns headed "NR" are used to indicate that the client did not respond to that item.

4. To secure totals, simply count the X's in the appropriate columns.

5. Transfer these totals to the appropriate tables in Section III.

NOTE: 1. For unemployed clients it will be necessary to make entries on only pages 1 and 3 of the forms.

2. If you are surveying clients closed in more than one status, i.e., 08's and 26's, you can take the appropriate number of columns on page 2 to record this information. Or you may keep the statuses separate and record all of one status responses before including the responses of the other group on the forms. The important thing is to be able to identify the closure status of each client.

Employee Questionnaire

Personal Data Section and Item 1

(Tables 2 and 3)

1

I.D.#	Age	Marital Status				# Dependents							Education															1 - Work Status					
		S	M	Other	NR	0	1	2	3	4	5	6+	NR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	NR	1	2	3	4	5	NR

Employee Questionnaire

Item 1

(Table 6)

2

Employers (List)	Type of Business (List)

Employee Questionnaire

Items 2 - 4

(Tables 4, 5 and 7)

3

I.D.#	2 - Rate VR						3 - Need VR Services				4 - Job Title (List)
	1	2	3	4	5	NR	1	2	NR	What Services	

Employee Questionnaire

Items 5 - 9

(Table 5)

I.D.#	5			6				7			8					9				
	1	2	NR	1	2	3	NR	1	2	NR	To 3 Mo.	4-6 Mo.	7-12 Mo.	Over 12 Mo.	NR	1	2	3	4	NR

Employee Questionnaire

Item 10 - 12

(Table 9)

5

I.D#	10					11				12								
	1	2	3	4	NR	1	2	3	NR	1	2	3	4	5	6	7	NR	

-73-

71

Employee Questionnaire
Item 13 - 15
(Table 9)

6

I.D.#	13								14								15							
	1	2	3	4	5	6	7	NR	1	2	3	4	5	6	7	NR	1	2	3	4	5	6	7	NR

Employee Questionnaire
Items 16 - 19
(Table 8)

7

I.D#	16						17						18						19					
	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR

Employee Questionnaire
Items 20 - 23
(Table 8)

8

I.D#	20						21						22						23					
	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR

-76-

Employee Questionnaire
Item 24 - 27
(Table 8)

I.D#	24						25						26						27					
	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR

Employee Questionnaire
Item 28 - 31
(Table 8)

10

I.D.#	28						29						30						31					
	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR	1	2	3	4	5	NR

-78-

Employee Questionnaire
Item 32
(Table 8)

11

I.D.#	32					
	1	2	3	4	5	NR

NOTES:

(1) Items 16 - 26 = Work Personality

(2) Items 27 - 32 = Work Proficiency

(3) Average of Items 16 - 26 for Work Personality

(4) Average of Items 27 - 32 for Work Proficiency

(5) If you are using Figure 1, tabulate clients who are matched with an employer. Then tabulate separately those clients without a matched employer.

Employee Questionnaire
Items 33 - 35
(Table 10)

I.D.#	33								34								35							
	1	2	3	4	5	6	7	NR	1	2	3	4	5	6	7	NR	1	2	3	4	5	6	7	NR

Employee Questionnaire
Items 36 - 38
(Table 11)

13

I.D.#	36								37								38							
	1	2	3	4	5	6	7	NR	1	2	3	4	5	6	7	NR	1	2	3	4	5	6	7	NR

-81-

79

Employee Questionnaire
Items 39 - 42

14

I.D.	39			40			41			42					
	1	2	NR	1	2	NR	1	2	NR	1	2	3	4	5	NR

80

-82-

APPENDIX I

What Standard Deviation Can Tell Us

We've all heard the terms "range" and "standard deviation". The standard deviation (SD) allows us to look at the range in a more meaningful manner.

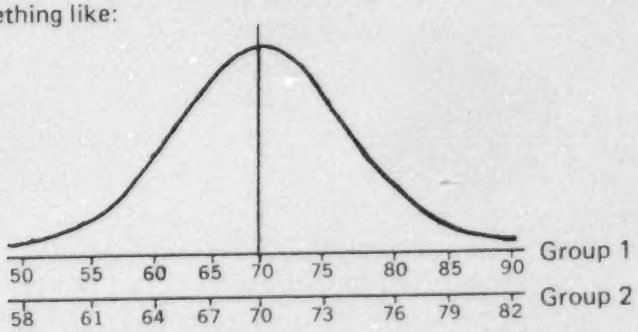
What Do You Mean?

The SD tells us how our numbers (or scores) are grouped or spread out from our average. Let's assume that you have two groups of clients in a training program. The average (mean) IQ for each group is 70. You might be tempted to say that the groups were comparable, especially if the range was 55-85 for both groups. But that isn't necessarily so. Our problem is to look at two groups, both with a mean of 70 and a range of 55-85 to see if the two groups are equal. We can tell this by using the SD.

Of course, if the ranges were different—say a range of 40-100 as opposed to 55-85—you would expect variation in ability. Because the 55-85 range is not as wide as 40-100, you know that the 55-85 range group has scores closer to the average of 70 than the group with a range of 40-100. Or, saying it another way, the scores of the 40-100 range group are more spread out than the 55-85 range group.

Show Me How The SD Would Help

Let's look at our two groups, each with a mean of 70 and each with a range of 55-85. Now, let's assume we have a normal distribution. Also, let's assume one group has a SD of 5, and the second group has a SD of 3. Graphically, these would look something like:

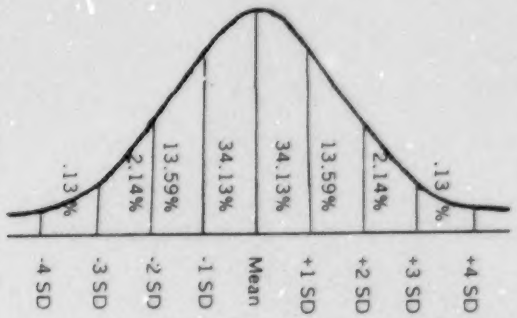


You Have One Curve and Two Scales, What Does It Mean?

You can look at the curve and see that group 2 with the SD of 3 has a scale based on adding or subtracting 3 to the mean of 70; and group 1 has a scale based on adding or subtracting 5 from the mean of 70. This tells us how the scores are distributed. Small SD's mean scores clustering closer around the mean than large SD's which indicate wider variability or scatter. Therfore, group 2, with a SD of 3, has more IQ scores closer to the mean than group 1 with a SD of 5.

How Do You Know That?

Using the principle of the normal curve, your SD tells you how your scores are grouped around the mean in percents, assuming your distribution is normal and bell shaped.



So, 34.13% of your cases fall at 1 SD below the mean, and 34.13% at 1 SD above the mean. Going back to our IQ sample, with our SD of 3, 68.26% of the cases fall between an IQ range of 67-73 (70 $\pm$ 3). With our SD of 5, 68.26% of the cases fall between 65-75 (70 $\pm$ 5). At 2 SD's above and below the mean, with a SD of 5, 95.44% (adding our percents from the curve) fall in the 60-80 range (2 x 5 = 10; 70 $\pm$ 10). Computing for 2 SD's above and below the mean, with a SD of 3 gives us a range of 64-76. At the lower end of our scale, group 2 has fewer people with an IQ of 55 than does group 1. In our example, the differences may not be significant in a training program group, but it serves to show you the concept of SD.

Of course, if you are dealing with only a few cases, you can probably look at the figures and find out what you want to know. But, let's assume you are looking at all the clients in a district or state. With, say, 1000 or more clients, calculating the SD can give you a picture you could never get by just looking at the scores.

How Do You Get a Normal Curve?

A normal curve is based on distribution across an entire population or group of things. For example, if you plotted the IQs of all the people in the U.S., you would have a normal curve with a mean and median of 100. (Median is the midpoint. Half the scores fall above it, and half below).

Are All Curves Normal?

No. When you have a mean and a median that is different, you will have a curve that has its hump to the left or right of the mean—that is, you have a skewed curve. This happens when you are dealing with small samples or small groups of numbers. However, for most purposes you can assume a normal curve and use your percentages accordingly. You need only bear in mind that the further apart the mean and median are, the more skewed your curve is. A mean of 100 and a median of 99 is quite close—almost normal. However, a mean of 100 and a median of 90 is rather skewed.

REFERENCES

Bruning, James L. and Kintz, B. L. Computational Handbook of Statistics. Scott, Foresman and Co., Glenville, Ill. 60025 (Soft cover. One of the most understandable statistics books you'll run across. Recommended particularly for those not mathematically inclined.)

Thorndike, R. L. and Hagan, E. Measurement and Evaluation in Psychology and Education. John Wiley & Sons, 1961, Ch. 5 and 6.

Moriarty, Joseph B. How to Select, Interpret and Administer Psychological Tests. Research and Training Center, Institute, West Virginia.

Calculating the Standard Deviation Using State Averages For Total Number of Clients Served During FY '72

States report the average number of clients served per counselor during a year. Let's look at these figures (See Table 1). First, we have ranked the state averages from high to low. Our range is 20 to 299 for 54 VR programs, including those outside the continental U.S. We can calculate our mean by adding up all the figures and dividing by 54. That number is 141. We can get our median by determining the point at which 50% of the cases fall above and 50% below. That number is 135.

But What About Standard Deviation?

In our table, we have two columns of figures. Column 1 represents the ranked state averages.

Step 1. Put your data in a list similar to Column 1 (no particular order is necessary; we ordered for demonstration purposes only).

Step 2. Add up all the numbers and get a total. The total for our example is 7590 (that's the same figure we used to get the mean).

Step 3. Square all the individual scores (we did this for you in Column 2) and add the squared values. Our total here is 1,237,412.

Step 4. Square the sum obtained in step 2 (7590 x 7590 = 57,608,100); and divide that by the number of scores in column 1 (57,608,100 / 54 = 1,066,816.66). This number is called the correction term.

Step 5. Subtract the value obtained in step 4 (1,066,816.66) from the value obtained in step 3 (1,237,412). This number is 170,595.34.

Step 6. Divide the number obtained in step 5 by the number of scores in column 1, minus 1 (54 - 1 = 53). 170,595.34 / 53 = 3,218.78.

Step 7. Take the square root of that number. $\sqrt{3,218.78} = 56.73 = SD$.

With our mean of 141, and our SD of 57 (rounded from 56.73), we know that 68.26% of our state averages fall between 81 and 198 (141 + 57), assuming no mathematical error and assuming that the distribution is normal. Another 13.59% fall between 24 and 81, and another 13.59% between 198 and 252, and so on.

If we were interested in studying optimum counselor caseload, we would probably look at those that fell below one SD from the mean to determine reasons for lower caseloads. This could be due to such things as:

1. inadequate professional or support staff;
2. poor or few referrals;
3. a high percent of new counselors;
4. more intensive counseling program;
5. concentration on hard to rehabilitate cases.

Similarly, a higher than average caseload (more than 1 SD above the mean) could be due to:

1. good organization;
2. maximum use of paraprofessionals or adequate professional staff;
3. innovative program features;
4. lower incidence of hard-to-rehabilitate cases.

Our task here has not been to say what a state's caseload should be. Rather we have showed how SD can be used by states for various kinds of comparisons. Also, we do not intend to imply that the average in this example should be considered an optimum caseload. By looking at extremes on both sides of an average, a state can begin to develop data to help improve such things as caseload management. A state might consider this approach, using its own state data, to study caseloads by various locations, e.g., corrections, mental hospitals, district office, etc.

Table 1

Column 1	Column 2	Column 1	Column 2
20	400	136	18,496
36	1,296	137	18,769
62	3,844	137	18,769
73	5,329	140	19,600
77	5,929	141	19,881
81	6,561	142	20,164
89	7,921	147	21,609
91	8,281	151	22,801
92	8,464	157	24,649
94	8,836	162	26,244
95	9,025	166	27,556
97	9,409	168	28,244
103	10,609	172	29,584
103	10,609	179	32,041
104	10,816	185	34,225
107	11,449	186	34,596
108	11,664	189	35,721
109	11,881	189	35,721
109	11,881	190	36,100
111	12,321	193	37,249
111	12,321	197	38,809
117	13,689	202	40,804
123	15,129	220	48,400
125	15,625	231	53,361
125	15,625	255	65,025
131	17,161	293	85,849
133	17,689	299	89,401

APPENDIX J

Job Performance and Satisfaction of Successfully Closed Vocational Rehabilitation Clients*

M. S. Tseng

Rehabilitation Research and Training Center (RT-15)
West Virginia University

ABSTRACT

Occupational functioning of those disabed employees who had been successfully closed by a state vocational rehabilitation agency and were gainfully employed was investigated through the data collected from 65 such clients and 75 employers. While the employers as a group were considerably satisfied with their disabled employees in terms of work personality and proficiency and overall performance, the disabed employees themselves expressed moderately high degree of job satisfaction, attitude toward work, and self-acceptance. In comparison to their respective employers' ratings, the disabled clients tended to overestimate their own personal quality as measured by an 11-item work personality scale ($t = 3.49$, 51 matched pairs, $p < .01$). Among the significant correlates of job satisfaction found were work personality ($r = .28$, $df = 49$, $p < .05$) and self-acceptance ($r = .34$, $df = 53$, $p < .01$). Self-acceptance proved to be a significant correlate of attitude toward work ($r = .35$, $df = 56$, $p < .01$) which was in turn significantly associated with spousal conformity on family affairs ($r = .63$, $df = 27$, $p < .001$).

* Paper presented to the 1973 National Conference of National Rehabilitation Association, Atlantic City, October 31, 1973.

Job Performance and Satisfaction of Successfully Closed Vocational Rehabilitation Clients[1]

M. S. Tseng[2]

Rehabilitation Research and Training Center (RT-15)
West Virginia University

The functioning of vocational rehabilitation system may be viewed in a macro fashion as an input-intervention-output system in which the three basic stages input, intervention, and output constitute a looping cycle.

Included in the input stage are the components of general population, including a sub-population consisting of those people who need rehabilitation and another sub-population comprising those people who serve as rehabilitation agents.

The second stage represents the intervention phase during which vocational rehabilitation is to take place. The disabled person may go through this stage entirely on his own resources and/or via the assistance provided by public or private organizations including vocational rehabilitation agencies. During this intervention stage vocational rehabilitation agencies provide diagnostic and evaluation, counseling and guidance, physical restoration, training, placement, and follow-up services as vehicles for intensive interactions between the client and rehabilitation agents. These interactions are designed to pool together the client's own resources and the resources of his environment in order to achieve not only the enhancement of the client's rehabilitation potential but also the facilitation of rehabilitation process itself.

The client then moves on to the output stage where his dependency is lowered, self care improved, self support attained or regained, and family life strengthened (SRS program objectives, 1968). In completing the loop, he goes back to general population, even becomes part of rehabilitation resources, in the input stage. Of course, he may need further rehabilitation and move on again, therefore, to the intervention stage and so forth.

This study was undertaken primarily for the purpose of assessing the occupational functioning of those former clients who had been successfully closed by the vocational rehabilitation agency. As such it can be classified as an output study within the framework of the macro system of vocational rehabilitation described above.

In investigating the effects of vocational training, viewed as an intervention, upon vocational rehabilitation, the author has conducted several studies relating client personal characteristics and work proficiencies to such intermediate VR system's criteria as trainability, training satisfaction, training outcome, and employability (Tseng, 1970; Tseng, 1972, a. Tseng, 1972, b. Tseng, 1972, c. Tseng, 1973). The present study went beyond the intervention phase. It attempted to follow-up those clients who were successfully closed by the vocational rehabilitation agency and were gainfully employed in the output stage. Specific information sought in this study included employment status, job performance, job satisfaction, attitude toward work, self-acceptance, familial data, clients' view of VR services, and interrelationships among these variables.

METHODOLOGY

Subjects

Former rehabilitation clients and their employers constituted the subjects of this research project. Clients were drawn from the annual listing of successful closures of a local vocational rehabilitation office in West Virginia. Among a total of 280 VR 26's (successfully closed cases), 77 were homemakers and, therefore, excluded from study. Questionnaires were sent to the remaining 203 clients and 112 respective employers. Of these individuals 81 clients and 100 employers responded. Among the 81 client respondents 65 were still gainfully employed, 4 were self-employed, and 12 were no longer employed. Of the 100 employer respondents 75 reported that the corresponding clients were still employed and 25 responded that the corresponding clients were no longer employed by them. Therefore, 65 employed clients and 75 employers constitute analyzable cases.

Among the 65 employed clients 37 (accounting for 57%) were married, 13 (20%) were single, and 15 (23%) were separated, divorced, or widowed. The distribution of these former clients in terms of their primary disabilities was as follows: visual impairments 8 (accounting for 12%), hearing impairments 7 (11%), orthopedic deformity or function impairment except amputation 9 (14%), absence or amputation of major members 4 (6%), mental disorders 5 (7%), allergic and metabolic diseases 2 (3%), cardiac and respiratory diseases 4 (6%), digestive system disorders 13 (20%), genito-urinary system disorder 1 (2%), speech impairment 1 (2%), and disabling conditions for which etiology is not known or not appropriate 11 (17%).

The VR services rendered to these clients included counseling, physical restoration, and vocational training. All clients received varying degee of counseling plus services relating to physical restoration and/or vocational training. Of the 65 clients 13, accounting for 20%, received training (with 5,

accounting for 8%, in college; 8, accounting for 12%, in vocational and technical training programs) and 52, accounting for 80%, received services in physical restoration only (medical and surgical treatment 39, accounting for 60%, psychiatric or therapeutic treatment 2, accounting for 3%, appliance 11, accounting for 17%).

Types of business and industry represented by the employers who completed the questionnaire, and for whom 75 VR clients were working, are automobile body shop, automobile dealer, automotive springs and service, bank, beauty salon, can manufacturing, church, coal mining, coffee shop, college dormitory, community action organization, construction materials and supplies, county board of education, delivery company, gas station, glass factory, grade school, grocery store, heating company, high school, hospital and clinic, homeowner, hotel, industrial supplies, lumber company, metal products, nursing home, optical company, power plant, realty company, restaurant, retail store, sheltered workshop, state department of employment security, state department of highways, state police, and transportation (bus) company.

Out of the 65 client and 75 employer cases whose data were analyzable, 54 matched pairs of employed clients and their respective employers were identified.

Instruments

Two questionnaires--one constructed for the successfully closed VR clients (Status 26) and the other designed for their respective employers--were used. Questionnaire A^3 was mailed to the former VR clients to tap the following variables: age, marital status, number of dependents, primary disability, educational level, employment status, occupational title, VR services received, length of time holding present job, hours of work per week, enjoyment derived from present job, means of getting a job, job satisfaction, work personality, work proficiency, self-acceptance, attitude toward work, employment status of spouse, and agreement with spouse on family affairs.

Variable job satisfaction was measured by the 4-item Hoppock Job Satisfaction Blank. This scale is reported to have the split-half reliability of .87, corrected by the Spearman-Brown formula to .93 (N = 301, Hoppock, 1935). The author had administered the Hoppock Job Satisfaction Blank and a 31-item General Job Satisfaction Scale developed by the University of Minnesota Industrial Relations Center (Carlson, Dawis, England and Lofquist, 1962) to a sample of former clients of West Virginia Rehabilitation Center and obtained a very high correlation of .93 ($N = 52$, $p < .001$) between the two job satisfaction measures. Based on this finding and taking into consideration that it consists of only four items, the Hoppock Blank was selected and used in the present study to yield a global measure of job satisfaction of the VR 26's who were employed.

Variable work personality was measured by the Tseng Work Personality Subscale for the client. This is an 11-item summative rating scale designed to yield a global measure of the individual's assessment of his own personal quality in a work situation. The 11 attributes that constitute the work personality measure are the ability to work with others, punctuality, cooperativeness, self-reliance, appearance, courtesy, motivation, reliability, work tolerance, initiative, and attitude toward job (Tseng, 1972c). This subscale has the split-half reliability (with the Spearman-Brown correction) of .80 (N = 113) and the internal consistency as measured by Cronbach alpha of .86 (N = 113).

Variable work proficiency was measured by the Tseng Work Proficiency Subscale for the client. It is a 6-item summative rating scale designed to yield a composite score of the individual's assessment of his own proficiency on the job. The six attributes that constitute the work proficiency measure are job knowledge, job skill, quality of work, care and operation of equipment, observance of safety practices, and compliance with work rules (Tseng, 1972c). The split-half reliability with the Spearman-Brown correction and the internal consistency as measured by Cronbach alpha of this subscale are .89 (N = 113) and .84 (N = 113), respectively. The total scale, the composite of work personality and work proficiency subscales, has the split-half reliability (with the Spearman-Brown correction) of .88 (N = 113) and the internal consistency (Cronbach alpha) of .89 (N = 113).

Variables self-acceptance and attitude toward work of the client-employees were tapped by the seven-point semantic differential scales (Osgood, Suci, and Tannenbaum, 1957) with three bipolar adjectives for each of the two variables. The three bipolar adjectives used to measure the clients' self-acceptance are happy-sad, satisfied–dissatisfied, and optimistic-pessimistic. The three bipolar adjectives used to quantify the clients' attitude toward the world of work are good-bad, important-unimportant, and interesting-dull.

Questionnaire B[4] was mailed to the employer of the former VR client. Variables tapped by this questionnaire are client's job title, hours of client's work per week, client's work personality, client's work proficiency, client's overall performance, and importance of VR services on client's performance.

Variable client's work personality was measured by the Tseng Work Personality Subscale for the employer. This is an 11-item summative scale designed to yield a composite measure of the client's personal quality in a work situation as rated by his supervisor. This subscale, as does its counterpart for the client-employee, deals with the following eleven attributes: the ability to work with others, punctuality, cooperativeness, self-reliance, appearance, courtesy, motivation, reliability, work tolerance, initiative, and attitude toward job (Tseng, 1972c). The split-half reliability corrected by the Spearman-Brown formula and internal consistency as measured by Cronbach alpha of this subscale are .94 (N = 114) and .91 (N = 114), respectively.

Variable client's work proficiency was measured by the Tseng Work Proficiency Subscale for the employer. It is a 6-item summative rating scale that yields a global measure of the client-employee's work proficiency as rated by his supervisor. This subscale, like its counterpart for the client, deals with six attributes: job knowledge, job skill, quality of work, care and operation of equipment, observance of safety practices, and compliance with work rules (Tseng, 1972c). It has the split-half reliability with the Spearman-Brown correction of .94 (N = 114) and the internal consistency (Cronbach alpha) of .89 (N = 114).

RESULTS

The total (composite) scale has the split-half reliability (with correction) and the internal consistency (Cronbach alpha) of .95 (N = 114) and .94 (N = 114), respectively.

Employment Data

Of the 65 employed clients who responded to Questionnaire A, 55 (accounting for 85%) had full time jobs and 10 (accounting for 15%) were working on part-time basis. In terms of hours of work per week including the time it took to go to and from where these clients worked, 34 of them (accounting for 52%) worked over 40 hours, 28 (accounting for 43%) worked from 20 to 40 hours, and 3 (accounting for 5%) worked less than 20 hours.

The breakdown of the occupations of these former clients is as follows: automobile body repairman 1, automobile lot boy 1, auto mechanic 4, baby sitter 1, beautician 3, box boy 1, hotel clerk 1, office clerk 3, stock clerk 1, community action aide 1, computer operator 1, cook 3, custodian 3, damage appraiser 1, bus driver 1, truck driver 4, furnace installer 1, heavy equipment operator 1, hospital (nurse) aide 4, kitchen helper 1, laborer 4, loan officer 1, mine foreman 1, office helper 1, officer supervisor 1, packer 1, practical nurse 1, realtor 1, seamstress/tailor 3, secretary 3, service station attendant 1, shoe machine operator 1, social worker 1, stenographer 1, teacher 4, waitress 2, and welder 1.

Among these client-employees, 40 (accounting for 62% of them) reported that they had held the very jobs over one year. 12 (accounting for 18%) had had their jobs from seven months to one year, 5 (accounting for 8%) had held the jobs from four to six months, and 6 (accounting for 9%) had held their jobs three months or less. There were 2 clients (accounting for 3%) who did not respond to this question.

Job Performance

Client's work personality (11 attributes) and work proficiency (6 attributes) were evaluated by the employers (N = 75) and the clients themselves (N = 65). In addition, the overall performance of the client was also rated by the respective employer. The assessment of these attributes was conducted on a 5-point rating scale, with 1 representing the lowest rating and 5 the highest. Table 1 summarizes the result.

Table 1

Employer and Client Ratings of the Client Work Personality and Proficiency Attributes

Attribute	Employer			Client		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Ability to work with others	4.1	0.6	75	4.3	0.6	64
Punctuality	4.2	0.7	75	4.6	0.5	64
Cooperativeness	4.3	0.6	75	4.5	0.7	64
Self-reliance	4.1	0.7	75	4.5	0.5	64
Appearance	4.1	0.6	75	4.5	0.6	64
Courtesy	4.3	0.7	75	4.6	0.5	64
Motivation	4.0	0.9	75	4.3	0.8	64
Reliability	4.1	0.8	75	4.6	0.5	64
Work Tolerance	4.0	0.9	75	4.3	0.9	64
Initiative	3.9	0.8	75	4.2	0.8	64
Attitude	4.1	0.8	75	4.3	0.9	63
Work Personality Composite	45.3	6.2	75	48.4	4.6	62
Job Knowledge	4.1	0.9	75	4.4	0.6	63
Job Skill	4.2	0.8	75	4.3	0.7	63
Quality of Work	4.2	0.8	75	4.4	0.6	63
Care of Equipment	4.1	0.8	74	4.5	0.5	63
Safety Practices	4.2	0.7	72	4.3	0.7	59
Following Shop Rules	4.3	0.7	73	4.4	0.6	59
Work Proficiency Composite	25.0	3.9	72	26.2	2.9	59
Work Personality and Proficiency	70.3	9.7	72	74.8	6.5	57
Overall Performance	4.3	0.7	74			

Employers were considerably satisfied with their disabled employees. This was reflected in the relatively high ratings they gave the clients on work personality ($\bar{X}$ = 45.3, SD = 6.2, resulted from an 11-item 5-point scale), work proficiency ($\bar{X}$ = 25.0, SD = 3.9, measured by a 6-item 5-point scale), and overall performance ($\bar{X}$ = 4.3, SD = 0.7, yielded by a single item 5-point scale). As to the ratings of the 17 individual attributes within the work personality and work proficiency dimensions, the employers gave their respective client-employees an average rating of 4 or above on each of the attributes except "initiative" which received a mean rating of 3.9.

To compare the client's self-rating and his employer's rating of the client work personality and proficiency, data of the 54 employer-client matched pairs were analyzed by the t-test. Table 2 presents the results.

Table 2

Ratings of Client Work Personality and Proficiency by Employer-Client Matched Pairs

Attribute	Employer			Client			t
	$\bar{X}$	SD	N	$\bar{X}$	SD	N	
Work Personality	46.1	5.7	51	48.2	4.6	51	3.49 **
Work Proficiency	25.6	3.6	49	26.3	2.9	49	1.08

** $p < .01$

The client's self-rating on work personality revealed that he tended to overestimate his personal quality when his employer's rating was used as a basis for comparison (mean difference 2.1, 51 matched pairs, $t = 3.49$, $p < .01$). He was more realistic, however, in rating his own work proficiency level. Work proficiency ratings given by 49 matched pairs of clients and employers yielded a mean difference of 0.7 and a non-significant t value of 1.08.

Job Satisfaction

The 4-item 7-point Hoppock Job Satisfaction Blank was responded to by 65 clients, yielding a mean job satisfaction measure of 20.6 and standard deviation 3.7. The score of 16 being the neutral point, this finding indicates that the disabled employees as a group were moderately satisfied with their job.

To identify significant correlates of job satisfaction correlation analysis was conducted. The first two columns of Table 3 show the results.

Table 3

Correlates of Job Satisfaction, Self-Acceptance, Attitude Toward Work, and Spousal Conformity

Variable	JS r	JS N	SA r	SA N	ATW r	ATW N	SC r	SC N
Age	-.02	62	-.11	58	.19	61	.01	29
Number of Dependents	-.14	60	-.31*	56	-.21	59	-.31	29
Educational Level	.04	62	-.06	58	.02	61	.29	29
Occupational Level	.20	62	-.21	58	-.04	61	-.33	29
Length of time holding present job	-.25	60	.03	57	-.10	59	-.12	29
Hours of work per week	.02	62	-.01	58	.29*	61	.61***	29
Enjoying Work	.42**	62	.27*	58	.21	61	.38	29
Rating of VR services	-.01	60	.15	55	.06	58	-.08	27
Job Satisfaction	1.00	62	.34**	55	.11	58	.00	28
Self-acceptance	.34**	55	1.00	58	.35**	58	.13	27
Attitude toward work	.11	58	.35**	58	1.00	61	.63***	29
Spousal Conformity	.00	28	.13	27	.63***	29	1.00	29
Client rating of Work Personality	.31*	60	.34**	56	.39**	59	.35	29
Client rating of Work Proficiency	-.02	56	-.06	53	.24	55	.12	27
Employer rating of Work Personality	.28*	51	.25	48	.00	50	.06	25
Employer rating of Work Proficiency	.15	49	-.01	46	-.16	48	-.21	24
Employer rating of Overall Performance	.09	51	.11	48	.03	50	.10	25

*p <.05
**p <.01
***p <.001

Variables that had significant correlation with job satisfaction were enjoyment deriving from present job ($r = .42$, $df = 60$, $p < .01$), self-acceptance ($r = .34$, $df = 53$, $p < .01$), client's rating of his own work personality ($r = .31$, $df = 58$, $p < .05$), and employer's rating of the client work personality ($r = .28$, $df = 49$, $p < .05$). These indicate that the greater the enjoyment the disabled employee gets from his present job, the higher the level of self-acceptance of this employee, and the higher the personality quality of this individual as rated by himself and his employer, the higher would be his job satisfaction level, and vice versa.

Self-Acceptance

A semantic differential instrument, using 3 bipolar adjective 7-point scales (sad-happy, dissatisfied-satisfied, pessimistic-optimistic), was employed to yield the clients self-acceptance measure. The resultant mean score of 16.7 (SD = 2.3, N = 58) indicates that these employed former VR clients as a group were moderately happy, satisfied, and optimistic and, on average, showed moderately positive acceptance of themselves.

Correlational analyses were also carried out for the purpose of determining significant correlates of self-acceptance. The results are shown in the second two columns of Table 3.

Self-acceptance was found to correlate negatively with the number of dependents ($r = -.31$, $df = 53$, $p < .05$) and positively with variables enjoyment derived from present job ($r = .27$, $df = 56$, $p < .05$), job satisfaction ($r = .34$, $df = 53$, $p < .01$), attitude toward work ($r = .35$, $df = 56$, $p < .01$), and work personality as rated by the client-employee himself ($r = .34$, $df = 53$, $p < .01$).

Attitude Toward Work

The disabled employee's attitude toward work was measured by another semantic differential instrument, consisting of 3 bipolar adjective 7-point scales (bad-good, unimportant-important, dull-interesting). Responses made by the employed former VR clients yielded a mean score of 18.2 and standard deviation 2.3 (N = 61), revealing that they considered "the world of work" to be quite good, important, and interesting and, therefore, showed a quite positive attitude toward work.

Correlations between attitude toward work and other variables are present in the third 2 columns of Table 3. Hours of work per week ($r = .29$, $df = 59$, $p < .05$), self-acceptance ($r = .35$, $df = 56$, $p < .01$), spousal conformity ($r = .63$, $df = 27$, $p < .001$), and client's rating of his own work personality ($r = .39$. $df = 57$, $p < .01$) were positive and significant correlates of the disabled employee's attitude toward work.

Spousal Conformity

Married client-employees were asked to indicate their agreement with spouses, on matters concerning the family, on a 5-point scale (1 never, 2 very rarely, 3 half of the time, 4 most of the time, 5 always agree). The resultant mean score of 4.0 and standard deviations 0.9 (N = 29) indicate that these married former VR clients had little problem with their spouses on family affairs. On average, they agreed with their spouses most of the time on matters concerning the family.

Correlations between spousal conformity and other variables are shown in the last two columns of Table 3. Spousal conformity proved to have a significantly positive association with hours of work per week ($r = .61$, $df = 27$, $p < .001$) and attitude toward work ($r = .63$, $df = 27$, $p < .001$).

Vocational Rehabilitation Services as Viewed by Employed Former Clients

Among the 65 client-employees and 4 self-employed clients, nearly nine out of every ten clients indicated that they did not need Vocational Rehabilitation to prepare them for their jobs and that they did not need the VR counselor to assist them in finding their jobs. Approximately one-half of them wanted additional services from the VR counselor.

When asked "were you able to do this type of work (present job) before you contacted Vocational Rehabilitation?" eleven of them (accounting for 16%) claimed that they were able to do the work, twelve (accounting for 17%) said they had limited ability to do the work, and forty-one clients (accounting for 59%) reported that they were not able to do the type of work before they contacted vocational rehabilitation agency. Five clients (accounting for 7%) did not give their answers to this question.

In responding to the question "if at some time in the future you need to get a job, who should help?" fifty-four clients (accounting for 78%) felt that they themselves should find the job, eleven of them (accounting for 16%) felt that the VR counselor should find the job for them, and one client (accounting for 1%) believed that some other agency should get a job for him.

They were also asked to rate Vocational Rehabilitation services. A great majority, fifty-six out of the sixty-nine clients (consisting of 81%), considered VR services good and very good. Eight of them (accounting for 10%) gave the rating of uncertain, poor, and very poor and or not positive about VR services. Five clients (accounting for 9%) did not give their ratings at all.

It is of special interest to note that the positive or negative ratings of VR services had no effect at all on the clients' expressed need for additional VR services. Of the 8 clients who gave VR services the ratings of very poor, poor, and uncertain, 3 expressed their need for additional VR services and 5 felt no such need; of the 56 clients who rated VR services good and very good, 28 indicated need for additional VR services and the other 28 expressed no such need. These frequencies in the 2 x 2 contingency table yielded a Chi Square value of 0.46 which, with 1 degree of freedom, is not statistically significant.

Vocational Rehabilitation Services as Viewed by Employers

Employers were asked to respond to the following statement on a 5-point scale (1 strongly disagree, 2 disagree, 3 uncertain, 4 agree, 5 strongly agree): "the employee training through Vocational Rehabilitation is important to his/her job performance."

Their responses ranged from 2 disagree to 5 strongly agree yielding a mean score of 3.6 and standard deviation 0.9 (N = 65). The data indicate that employers of the disabled workers as a group do consider vocational rehabilitation training important to their employees performance on the job.

CONCLUSIONS

On average, the disabled employees who had received vocational rehabilitation services were performing their job satisfactorily, as far as their employers were concerned. These former Vocational Rehabilitation clients as a group showed moderately high level of satisfaction with their job, moderately high degree of self-acceptance, and a considerably positive level of attitude toward work.

The disabled employees were asked to rate their own work personality and proficiency. Data show that they were more accurate in evaluating their own work proficiency than in assessing their own personal quality when their respective employers ratings were used as the criterion. In fact, they tended to overestimate their work personality. In a previous study the author found a parallel in the vocational training setting where vocational rehabilitation trainees self-evaluation on their work personality and proficiency were compared with the shop instructors assessment (Tseng, 1972c).

The disabled employees' satisfaction with their job was positively correlated with work personality and self-acceptance. There was also a positive association between self-acceptance and attitude toward work. In addition, attitude toward work had positive correlations with hours of work per week and spousal conformity on family affairs.

REFERENCES

Carson, R. E., Dawis, R. V., England, G. W., and Lofquist, L. H. The Measurement of Employment Satisfaction. Minneapolis: University of Minnesota Industrial Relations Center, 1962.

Hoppock, R. Job Satisfaction. New York: Harper and Row, 1935.

Osgood, C. E., Suci, G. J., and Tannenbaum, P. H. The Measurement of Meaning. Urbana: University of Illinois Press, 1957.

Tseng, M. S. Locus of control as a determinant of job proficiency, employability, and training satisfaction of vocational rehabilitation clients. Journal of Counseling Psychology, 1970, 17, 487-491.

Tseng, M. S. Need for achievement as a determinant of job proficiency, employability, and training satisfaction of vocational rehabilitation clients. Journal of Vocational Behavior, 1972, 2, 301-307.

Tseng, M. S. Predicting vocational rehabilitation dropouts from psychometric attributes and work behaviors. Rehabilitation Counseling Bulletin, 1972, 15, 154-159

Tseng, M. S. Self-perception and employability: a vocational rehabilitation problem. Journal of Counseling Psychology, 1972, 19, 314-317.

Tseng, M. S. Factors differentiating trainable mentally deficient from physically handicapped clients in vocational rehabilitation settings. Rehabilitation Literature, 1973, 34, 168-172.

FOOTNOTES

[1]This research was supported in part by West Virginia University Regional Rehabilitation Research and Training Center (RT-15), through the Social and Rehabilitation Service, Department of Health, Education and Welfare.

[2]The author expresses his appreciation to Mr. John M. Panza and Dr. B. Udelle Friedland for their assistance. Requests for reprints should be sent to Dr. M. S. Tseng, Research and Training Center, West Virginia University, 509 Allen Hall, Morgantown, West Virginia 26506.

[3]Interested reader may obtain a copy of Questionnaire A from the author.

[4]Interested reader may obtain a copy of Questionnaire B from the author.